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Blue Jay

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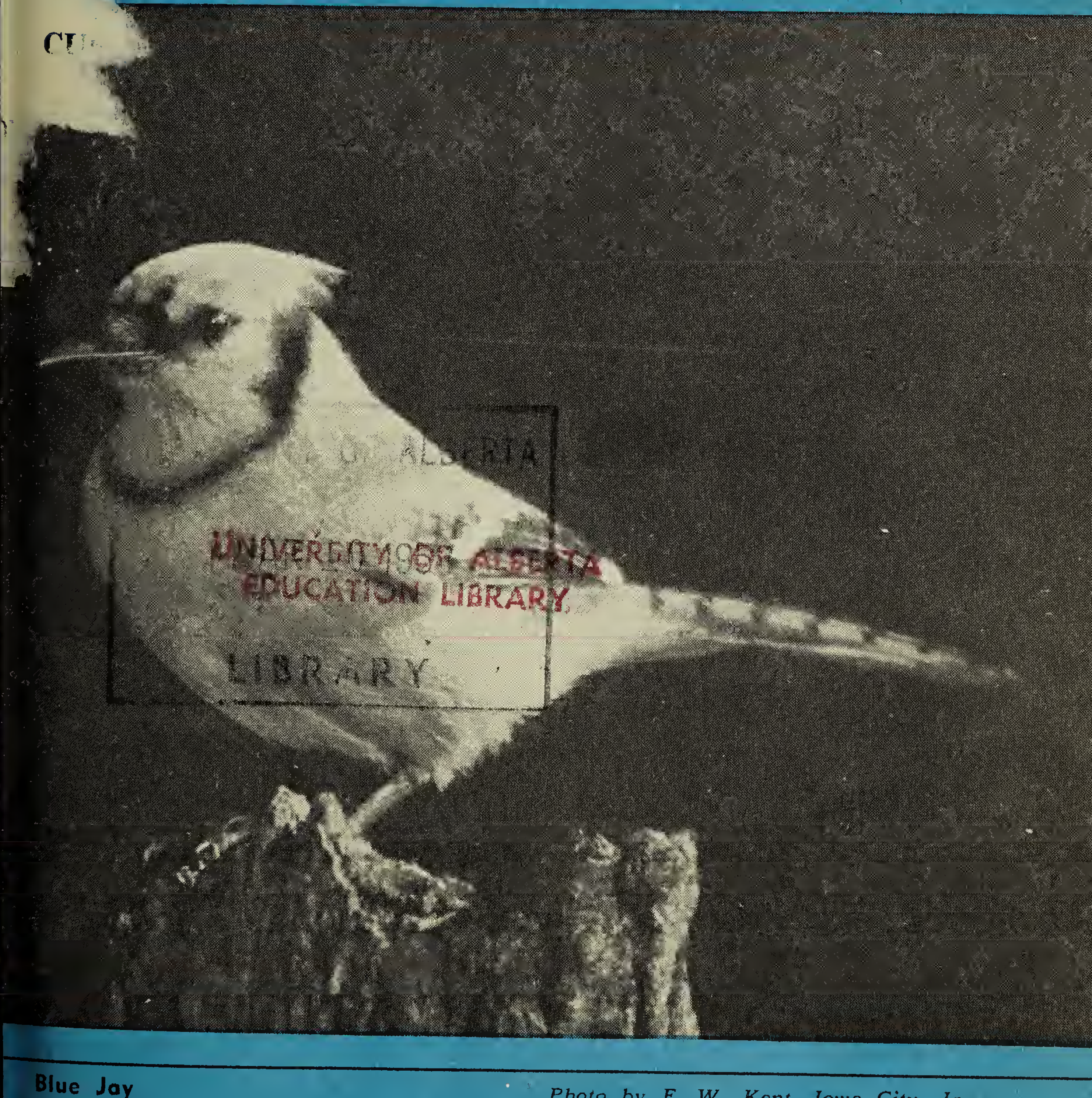
Vol. XVI, No. 1 March, 1958



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Blue Jay *Photo by F. W. Kent, Iowa City, Iowa*

Published quarterly by
THE SASKATCHEWAN NATURAL HISTORY SOCIETY

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BLUE JAY CHATTER

One of the main features in the March issue of the **Blue Jay** is th summary of the Christmas Bird Count. Although it can be extremel arduous, participation in the Bird Count may be regarded as a most interesting "sport." One can easily understand, therefore, why each yea more and more people undertake to make a Christmas Bird Count.

Perhaps our readers do not all know how the continent-wide Christmas Bird Count originated. In the December, 1957 issue of **Carnegie Magazine** Stanley Crawford tells the history of the count. "In the latter year of the nineteenth century it was a sporting custom to go out into the field during Christmas week and shoot to death as many birds as possible, especially "vermin" hawks and crows. This pastime was called the Christma Hunt. To offset this heartless slaughter of birds, Frank Chapman, note ornithologist with the American Museum of Natural History in New York organized the Audubon Christmas Bird Census or Count in 1899. It purpose was to observe and accurately name as many species of birds a possible in one day during the Christmas holidays . . . The first count too place in 1900, when 27 observers in Brooklyn reported 25 species."

The Christmas Bird Count is now an annual and popular event throughout the United States and Canada. It has done much to interest peopl in birds and to counteract the desire to destroy birds which is, unfortunately, still too prevalent. This winter in the local press we have bee distressed to see several letters and statements urging the destruction o birds. In Northern Saskatchewan two branches of the Saskatchewan Fis and Game League are enlisting children in their campaign to rid th Garden River area of owls, hawks, crows and magpies in order to establish pheasants there. We realize that predators are a problem whereve game birds are being raised or introduced. However, we do not like see children asked to compete with each other in destroying these bird For one thing, there will be indiscriminate killing since points in th contest are offered for the legs of any hawk or owl. Some of these speci are actually on the protected list. Not only is this practice liable to reduce the population of the rare species of hawks and owls but it mak it more difficult for young people to develop respect for living thing An example of what destructive attitudes can lead to occurred this wint in Moose Jaw where 25 Bohemian Waxwings were found dead, apparent shot by boys with bows and arrows.

We are sorry to hear of the death of Arthur Ward at 82. Mr. War a pioneer of the Cutbank community southeast of Swift Current, was active ornithologoist and bird bander. Readers of the **Blue Jay** will n forget Mr. Ward, and will be glad to hear that his thirteen-year old gran son, Stan Ward, who wrote to us recently from Saskatoon, is hoping develop his "grandfather's interest in birds starting with taking pictures a later in banding." It is a fitting tribute to his grandfather that Stan Wa is already learning to appreciate nature.

Another long-time member of the Saskatchewan Natural History Socie who recently passed away is Mrs. Albert Mudiman. As a tribute to h wife's interest in children and in natural history, Mr. Mudiman is givi memorial **Blue Jay** subscriptions to the four intermediate classes taught his wife. I know that **Blue Jay** readers will want to join me in expressi our sympathy to Mrs. Ward and Mr. Mudiman in their bereavement. know, too, that you would want me to send sympathy to Mr. Maurice Stre Nipawin, whose wife died November 25, 1957 and to Mrs. W. K. Cruic shank, Regina, whose husband died on January 22, 1958.

The Blue Jay

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Membership (including **Blue Jay**) $1.00

"If Winter comes, can Spring be far behind?"

Chinook

For five long months the snow had lain
Hollowed and heaped on the frozen plain,
Choking gullies and rising high
Out of buried bluffs to the leaden sky.

Monster drifts stretched grey-white arms
Around the buildings on prairie farms
And only the poles of the telephone line
Broke the waste with their thin design.

Then, silent and swift in the night it came,
That warm west wind with a magic name . . .
Snow fled the hills and the hilltops browned,
Fallow and pasture showed virgin ground.

Drifts dissolved and their rivulets grew
From trickle, to stream, into glistening slough
Where aspen and willow marched down to drink
Fresh new life from the icy brink.

Silent and swift on the warm wind's crest
Spring blew in to the welcoming West;
On a new brown hill I lingered to look
And whispered the magic name, "Chinook."

Eleanor Chance Long, Regina.

Reprinted with permission from the Saskatchewan Poetry Book.

Can Humans Tell Spring?

By Robin Redbreast

Other birds intrigued by that time-honored question, Can Humans Recognize Spring? may find some observations of mine of interest.

While out human-watching on a sunny April afternoon I was lucky enough to see an entire family of humans emerge from their nest. I had an excellent view (being hidden in a tree only 150 yards from them) and saw the whole of their antics.

Old Man Human, whose dress is much the drabbest of the family (and who, I noticed, is also distinguished from the Female by marks under his eyes, circular in shape), came hopping out of his nest carrying a rake-shaped piece of wood. The Old Man Human hops chiefly on his heels. Hop, hop he went with rake, as though combing grass.

After perhaps 15 minutes of this, Old Man Human threw down the rake and uttering croaks which sounded like: o-my-bak, o-my--bak, o-my-bak, he hopped into the nest.

Meanwhile the Female Human had been digging and poking in the earth, pulling out bits of grass and weeds. While at this she was joined by another Female and the two, making a 'my-dear my-dear, my-dear' kind of cry, hopped into the nest.

The young Humans who had all this time been going through little tricks, such as skipping (there is no other word for it!) over a piece of rope, or running after one another with bits of wood, chirping, "bang-bang-yoor-ded," on a sudden came to a full stop and crying together, "tee-vee, tee-vee, tee-vee," all flew into the nest.

This queer behavior in April which I have never witnessed at any other time of year, seems to me to give weight to the idea that Humans DO have a sense of spring.

Reprinted from Barry Mather's column "Mather's Nightcap" in the Vancouver *Sun*, April 17, 1955

Summer Meeting at Emma Lake

June 14 and 15, 1958

Emma Lake is a well-known lake containing along its shores some eight summer resorts. It is located about 30 miles north of the city of Prince Albert on a paved highway. The lake is very crooked, about six miles long and three miles wide, with a water area of about eight square miles. This lake is in the midst of the Parkland Zone and surrounding it may be found all types of forests known to this zone along with some small excursions of the Northern Coniferous Forest. The area has all types of habitat and shelters an extensive community of birds, mammals and other forms of life. The botanist will find a wide variety of plants, both vascular and otherwise.

The Prince Albert Natural History Society is in charge of arrangements. The programme being planned for the meeting will emphasize various aspects of forestry—forest inventory, forest pathology, game management, fish biology, and forest entomology. It is hoped to have at least one field trip under qualified foresters. Bird watchers, too, will have trips arranged for them.

It is expected that there will be ample accommodation at MacIntosh Point for all members who wish to attend. However, since this meeting will be held in advance of the regular season, the Prince Albert Society must have advance notice of your coming. Accomodation will be largely in cabins whose size and fittings greatly influence the rates, making exact quotations difficult. Dishes and cooking facilities are provided, but bedding should be brought by the renter of the cabin. Rates range from $3.00 to $8.00 a day.

A store is located at Christopher Lake, five miles from MacIntosh Point. For those not doing their own cooking, meals will be served in the dining room of the hotel at fixed hours. Meal charges of $1.10 per meal must be paid in advance. A lunch on Saturday will be available for those on the field trip and can be bought at the time.

If you plan on being at the meeting please assist the Prince Albert Society by completing the questionnaire below. This information is needed as soon as possible so that plans may go ahead.

RESERVATION OF ACCOMMODATION AT EMMA LAKE

Cut out or copy this form on another piece of paper.

1. Number of persons coming in your party ....
2. Do you wish reservations at Emma Lake for Friday night? .... fo
   Saturday night? .... for Sunday night? ....
3. Type of accommodation preferred: Cabin (cabins range from $3.00 to $8.00
   renters supplying their own bedding) ....; Hotel (Hotel accommo-
   dation limited. $4.50 double.) ....; no preference ....
   Will your party occupy the same unit? .... or separate units? ....
   If separate units, how many? ....
4. How many meals does **each** person of your party expect to eat at Emm
   Lake?: Friday .... Saturday .... Sunday ....
   Please enclose $1.10 per meal for each person in your party.
5. List names of those in your party ....

....

....

....

NAME (Please print) ....

ADDRESS ....
Please send this information not later than June 1 to Miss Jean MacKenzi
10 22nd Street East, Prince Albert, Sask.

Christmas Card Kodachromes Wanted

Our 1957 Christmas cards were well received, largely owing to the effectiveness of Doug Gilroy's color kodachrome of the Sharp-tailed Grouse. Since we want to have Christmas cards again in 1958, we are asking members with kodachromes to submit slides which they consider suitable for reproduction. We should like to have all entries by April 15 so that a choice of subject can be made and orders placed with the printer as soon as possible.

The 1957 Christmas card project was a financial success. However, we still have a small number of boxes on hand which are available while the supply lasts at 75c a dozen.

Canadian Field-Naturalist

A drive for new members (wh will be at the same time subscribe to the **Canadian Field-Naturalist**) currently being made by the Ottaw Field-Naturalists' Club. We shou like to urge all **Blue Jay** reade interested in natural history to co sider taking a membership and th becoming a subscriber

The Canadian Field-Naturalist is natural history journal of nation scope. In that way it differs fro local publications like the **Blue J** (which prints natural history not for the prairies). The annual men bership is $3.00. Money orders shou be made payable to the Ottawa Fiel Naturalists' Club and sent to:

R. J. Moore, Treasurer
Science Service Building, Ottaw

Sixteenth Annual Saskatchewan

Christmas Bird Count, 1957

By Mary Houston, Yorkton, Sask.

This year, Christmas bird count reports were received from 20 localities in Saskatchewan. The total number of species seen on "Count Day" for all localities was 47, with an additional 4 species seen during Christmas week but not on the day on which the official counts were taken.

From this year's report, 3 new species were added to the master list of birds seen in Saskatchewan during Christmas week in the last 16 years. This brings the total number of species to 88. New this year were: American Widgeon (Baldpate) Blue-winged Teal, and Rusty Blackbird.

Of the 20 localities, 19 reported seeing Black-billed Magpies, 18 Black-capped Chickadees, 17 Common Redpolls, 16 House Sparrows, 14 Pine Grosbeaks, 12 Hairy Woodpeckers, and Downy Woodpeckers, 11 Sharp-tailed Grouse and Snow Buntings. It has been a good year for Common Redpolls and Pine Grosbeaks, both of which have been seen in more areas than previously.

The fact that there was little snow in most areas made travelling about easier. Worthy of special mention are:

(a) The enthusiasm of Don Karasiuk, the 11 year old Prince Albert boy who sent in a very professional report.

(b) The count made in the Qu'Appelle Valley at Craven by members of the Museum staff. They also saw 48 individuals of 8 species of mammals.

(c) Steve Mann of Skull Creek, who got together the third largest group of bird counters.

(d) The Regina group who, led by Elmer Fox, compiled the largest number of species—24 in one day.

(e) The Saskatoon Natural History Society who got out the largest number of counters, scoured the area thoroughly, and turned in the largest number of individual birds seen in any locality this year.

BIG RIVER, Decmeber 26, 4 mi. on foot in 3 hours; temp. 8°; wind NE 20 mph; snowing; 12 inches of snow on ground. 12 species, 86 individuals. Sharp-tailed Grouse, 3; Gray (Hungarian) Partridge, 4; Great Horned Owl, 1; Pileated Woodpecker, 1; Hairy Woodpecker, 4; Downy Woodpecker, 2; Blue Jay, 7; Black-billed Magpie, 3; Common Raven, 3; Black-capped Chickadee, 32; Common Redpoll, 11; Snow Bunting, 15. (Add: White-breasted Nuthatch, 1; Evening Grosbeak, 7; Pine Grosbeak, 3.) — **Mrs. Anne Olson.**

BLADWORTH, December 26, 14 mi. in 4 hrs. by team and truck; temp. 18 to 34°; wind SE at 20 mph; cloudy; 4-5 inches of snow. 8 species, 211 individuals. Sharp-tailed Grouse, 8; Gray (Hungarian) Partridge, 13; Great Horned Owl, 1; Blue Jay, 2; Black-billed Magpie, 5; Black-capped Chickadee, 1; House Sparrow, 30; Common Redpoll, 151. (Add: Snowy Owl, 1, Dec. 31; Downy Woodpecker, 1, Dec. 24; Horned Lark, 1, Dec. 27; Bohemian Waxwing, 37 on Dec. 24; Northern Shrike, 1, Dec. 24; Snow Bunting, 36, Dec. 27.)— **P. Lawrence Beckie.**

CARLTON, December 29, 2 mi. on foot, 67 mi. by car, 1½ hrs. on foot, 13 hrs. by car; temp. -34 to -25°; wind E and NE at 15 mph.; mostly overcast; 6 in. of snow. 15 species, 688 individuals. Pigeon Hawk, 1; Ruffed Grouse, 5; Sharp-tailed Grouse, 18; Gray (Hungarian) Partridge, 16; Snowy Owl, 1; Hairy Woodpecker, 1; Gray (Canada) Jay, 1; Black-billed Magpie, 19; Black-capped Chickadee, 10; Starling, 5; House Sparrow, 168; Pine Grosbeak, 19; Evening Grosbeak, 22; Common Redpoll, 151; Snow Bunting, 251. — **Margaret Belcher** (Regina Natural History Society); **Dr. R. M. Bremner, Jonathon Gerrard, J. Frank Roy** (Saskatoon Natural History Society); **Dr. and Mrs. Stuart Houston** (compilers, (Yorkton Natural History Society).

CRAVEN, December 30, 4 mi. on foot, 39 mi. by car, in 7¼ hrs.; temp. -17 to -2° sunny; winds southerly, 6 mph.; 19 species, 779 individuals. Golden Eagle, 2; Bald Eagle, 2; Ruffed Grouse, 5; Sharp-tailed Grouse, 2; Great Horned Owl, 1; Snowy Owl, 1; Short-eared Owl, 1; Hairy Woodpecker, 9; Downy Woodpecker, 9;

Horned Lark, 1; Black-billed Magpie, 44; Black-capped Chickadee, 27; Bohemian Waxwing, 35; Northern Shrike, 1; House Sparrow, 142; Rusty Blackbird, 4; Pine Grosbeak, 1; Common Redpoll, 448; Snow Bunting, 44. **F. G. Bard, R. W. Nero, A. E. Swanston, R. W. Fyfe, F. Lahrman** (compiler), **E. Fox.**

DILKE, December 25, 25 mi. 2 hrs. by car, temp. 10 - 20° wind NW 5-15, sunny, snow in drifts with almost clear patches. Open prairie and farm land. 8 species, 640 individuals. Golden Eagle, 1; Sharp - tailed Grouse, 16; Gray (Hungarian) Partridge, 6; Black-billed Magpie, 13: Bohemian Waxwing, 25; House Sparrow, 18; Common Redpoll, 261; Snow Bunting 300. Add: Downy Woodpecker, 1, Dec. 31; Horned Lark, 1, Dec. 24.)—**Mr. and Mrs. S. R. Belcher and Margaret and Boswell Belcher.**

GRENFELL, January 1, 1958, 25½ mi. by truck in 1¼ hrs. and around farm yard during the day. Temp. -12 to 6°, clear, light wind, 4-5 inches snow. 7 species, 105 individuals. Hairy Woodpecker, 1; Black-billed Magpie, 16; Common Crow, 1; Black-capped Chickadee, 2; House Sparrow, 50; Pine Grosbeak, 7; Common Redpoll, 28. (Add: Golden Eagle, 1, Dec. 30; Sharp-tailed Grouse, 1, Dec. 27; Bohemian Waxwing, 2, Dec. 24; Starling, 3, Jan. 2.) — **Mr. and Mrs. J. Hubbard.**

HIGH HILL, December 30, 20 mi. and 16 party hrs. on foot. Temp. -20 to -28°, wind SW 4, clear and sunny, 10 inches of snow. 11 species, 65 individuals. Rough-legged Hawk, 1; Ruffed Grouse, 12; Hairy Woodpecker 2; Black-backed (Arctic) Three-toed Woodpecker, 1; Gray (Canada) Jay, 3; Blue Jay, 1; Black-billed Magpie, 4; Common Raven, 2; Black-capped Chickadee, 10; Pine Grosbeak, 6; Common Redpoll, 23. (Add: Downy Woodpecker, 1, Dec. 22; Snow Bunting, 20, Dec. 25.)—**Anton and Steve Waycheshen.**

LEADER, Dec. 30, 4 hrs. about the yard and on a short horseback ride. Temp. 4°, 2 inches of snow. 3 species, 22 individuals. Ring-necked Pheasant, 10; Black-billed Magpie, 8; Black-capped Chickadee, 4. — **Daisy Meyers.**

McLEAN, Jan. 1, 1958; 2 mi., 3 hrs. on foot. Temp. 10°, clear and sunny, 5 inches of snow. 6 species, 40 individuals. Hairy Woodpecker, 2; Downy Woodpecker, 2; Black-capped Chickadee, 8; Waxwing, 12; Pine Grosbeak, 4; Common Redpoll, 12.—**Mrs. Newton and Mrs. Harold Bray.**

NAICAM, Jan. 1, 6 mi. by car and 5 mi. on foot in 5½ hours. Temp. 10°, wind light, sunny, 4 inches of snow. 8 species, 159 individuals. Ruffed Grouse, 2; Downy Woodpecker, 1; Black-billed Magpie, 1; Black-capped Chickadee, 4; House Sparrow, 12; Pine Grosbeak, 6; Common Redpoll, 125; Snow Bunting, 8. (Add: Sharp-tailed Grouse, 3; Hairy Woodpecker, 1; Starling,5.) — **W. Yanchinski.**

PRINCE ALBERT, Dec. 27, 4½ mi. on foot in 6¼ hrs. Temp. 25°, wind East at 10, 12 inches of snow. 13 species, 336 individuals. Pigeon Hawk, 1; Downy Woodpecker, 1 Black-billed Magpie, 2; Common Raven, 9;. Common Crow, 33; Black-capped Chickadee, 25; Boreal (Brown capped) Chickadee, 5; Brown Creeper, 4; House Sparrow, 36; Evening Grosbeak, 76; Pine Grosbeak, 18 Hoary Redpoll, 1; Common Redpoll 125. (Add: Goshawk, 1 Dec. 22; Gray (Canada) Jay, 1, Dec. 23; Bohemian Waxwing, 1, Dec. 22.)—**Don Karasiuk**

REGINA, Dec. 28, 177 mi. by ca and 22 mi. on foot, 44 party hours by car and 18 party hours on foot 9 observers in 4 parties. Temp -18 t -10°, wind E to SE 8 to 20 mph 244 species, 1,747 individuals. Whistling Swan, 1; Canada Goose, 87; Mallard, 300; Pintail, 2; Canvasback, 1 Lesser Scaup, 11; Common Goldeneye, 1; Ruddy Duck, 1; Sharp-tailed Grouse, 11: Gray (Hungarian) Partridge, 25; Great Horned Owl, 1 Snowy Owl, 3; Hairy Woodpecker 1; Downy Woodpecker, 2; Black-billed Magpie, 48; Common Crow, 2 Black-capped Chickadee, 39; Red-breasted Nuthatch, 1; Golden-crowned Kinglet, 1; Bohemian Waxwing 70; Northern Shrike, 1; House Sparrow, 575; Common Redpoll, 133; Snow Bunting, 430. (Add: American Widgeon (Baldpate), Blue-winged Tea Redhead, Coot, Meadowlark, all see Dec. 21 and Jan. 1.)—**F. Brazier, Mr W. K. Cruickshank, E. Fox** (com piler), **R. Fox, D. Gilroy, G. Ledingham, R. Nero, D. Poudrier, J. Roo**

SASKATOON, Dec. 26, 22 mi. o foot and 133 mi. by car, 12 part hours on foot and 16½ party hour by car; 22 observers in 5 partie Temp. 16 to 34°, wind NE 20 to 3

mph, partially cloudy, 2 inches snow. 15 species, 4,662 individuals. Mallard, 10; Sharp-tailed Grouse, 35; Gray (Hungarian) Partridge, 23; Ring-necked Pheasant, 4; Great Horned Owl, 2; Hairy Woodpecker, 5; Downy Woodpecker, 1; Black-billed Magpie, 107; Black-capped Chickadee, 29; Bohemian Waxwing, 1,550; House Sparrow, 1,206; Evening Grosbeak, 24; Pine Grosbeak, 58; Common Redpoll, 1,260; Snow Bunting, 348. — **J. S. MacLennan, Ted Wedge, Terry, Wendy and Lindy-Lou Wedge, R. Pravda, A. Grady, R. Gerrity, G. Gerrity, D. Morris, B. Mills, J. F. Roy** (compiler), **Dr. and Mrs. R. Bremner and Margaret Bremner, R. Folker, B. Gollop, J. Shadick, J. Hogg, J. Mackenzie, P. Cordrey.** (Members of the Saskatoon Natural History Society).

SKULL CREEK, Dec. 27, 14 mi. on foot and 19 mi. by car, in 20 party hours. Temp 16°, strong SE wind, 1 inch of snow. 20 species, 1,092 individuals. Mallard, 24; Rough-legged Hawk, 1; Golden Eagle, 1; Ruffed Grouse, 1; Sharp-tailed Grouse, 120; Gray (Hungarian) Partridge, 12; Ring-necked Pheasant, 3; Great Horned Owl, 1; Snowy Owl, 1; Downy Woodpecker, 2; Black-billed Magpie, 7; Black-capped Chickadee, 33; Northern Shrike, 1; House Sparrow, 246; Meadow Lark, 1; Evening Grosbeak, ; Pine Grosbeak, 30; Common Redpoll, 500; Tree Sparrow, 2; Snow Bunting, 45. (Add: Horned Lark, 22, Dec. 29; Bohemian Waxwing.)—**Reid Shearwood, Harry Williams, Kenny Wright, Peter, Carol and Berna wain, Mr. and Mrs. Robert Mann, Mr. Steve Mann** (compiler), **and Miss Helen Mann.**

OMME, Dec. 22, 6 mi. by foot in hours. Temp 0°, wind 5 mph., 12 nches of snow. 8 species, 106 inividuals. Goshawk, 1; Sharp-tailed rouse, 20; Snowy Owl, 1; Black-illed Magpie, 1; Common Raven, 7; ouse Sparrow, 25; Pine Grosbeak, ; Snow Bunting, 50. (Add: Ruffed rouse, 1, Dec. 24; Black-capped hickadee, 1, Dec. 24; Hoary Redoll, 1, Jan. 1.)—**Donald and Ronald ooper.**

PEERS, Jan, 3, 34 mi. by car and mi. on foot, 2¼ hrs. by car, and ¼ hrs. on foot. Temp. 14°, clear, ind light, 3-4 inches of snow. 6 ecies, 475 individuals. Snowy Owl, Black-billed Magpie, 4; Black-capped Chickadee, 1; House Sparrow, 50; Pine Grosbeak, 19; Common Redpoll, 400. (Add: Ruffed Grouse, 2, Dec. 29; Sharp-tailed Grouse, 8, Dec. 30; Great Horned Owl, 1, Dec. 29.)—**Stuart Langley.**

SPIRIT LAKE, Dec. 29, 10 mi. on foot in 8½ party hours. Temp. 25° clear, 8-10 inches of snow. 10 species, 143 individuals. Ruffed Grouse, 1; Great Horned Owl, 3; Hairy Woodpecker, 9; Downy Woodpecker, 8; Black-billed Magpie, 4; Black-capped Chickadee, 70; House Sparrow, 30; Pine Grosbeak, 1; Common Redpoll, 12; Snow Bunting, 5. (Add: Goshawk, 1, Dec. 30; Sharp-tailed Grouse, 1, Dec. 30; Bohemian Waxwing, 2, Dec. 22; Evening Grosbeak, 3, Dec. 30; Hoary Redpoll, 1, Dec. 23.)—**Joyce Gunn, Bill Anaka.**

TISDALE, Jan. 1, 2 hrs. on foot about the area of Tisdale adjacent to the Doghide Creek. Temp. 0 to 10°, partly sunny, 4 inches of snow. 11 species, 84 individuals. Ruffed Grouse, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Black billed Magpie, 5; Common Raven, 1; Black-capped Chickadee, 5; Bohemian Waxwing, 15; Starling, 2; House Sparrow, 15; Evening Grosbeak, 30; Pine Grosbeak, 8. — **K. Elwin Baines.**

WYNYARD, Dec. 25, 8 species, 55 indivduals. Ruffed Grouse, 3; Hairy Woodpecker, 2; Downy Woodpecker, 2; Black-billed Magpie, 1; Black-capped Chickadee, 12; Northern Shrike, 1; House Sparrow, 28; Common Redpoll, 6. (Add: Great Horned Owl, 3, Dec. 22; Waxwing, 4, Dec. 30; Evening Grosbeak, 4, Dec. 23.) — **D. Bardal.**

YORKTON, Dec. 26, 12½ mi. on foot, 110 mi. by car, 8½ party hrs. on foot, 19½ party hrs. by car, 17 observers in 6 parties. Temp. 19 to 23°, wind SE at 30 mph., overcast, 6 inches of snow. 15 species, 894 individuals. Ruffed Grouse, 1; Sharp-tailed Grouse, 18; Gray (Hungarian) Partridge, 36; Great Horned Owl, 2; Downy Woodpecker, 2; Blue Jay, 2; Black-billed Magpie, 28; Black-capped Chickadee, 9; Bohemian Waxwing, 41; Starling, 4; House Sparrow, 219; Pine Grosbeak, 25; Hoary Redpoll, 2; Common Redpoll, 231; Snow Bunting, 274. (Add: Snowy Owl, 1, Dec. 29; Hairy Woodpecker, 1, Dec. 24.)—**Brother Eugene, Brother Joseph, Henry Chilman, Jr., Tom Cursons, Archie Fraser, Art Gellert, Billy**

Horseman, Dr. and Mrs. Stuart Houston (compilers), **Ronald McDonald, Preston McDonald, Bob Pearce, Wayne Pearce, Elwood Sharpe, Cliff Shaw, Jeff Smith, Donald Swaby.** (Yorkton Natural History Society).

Ed. note: The following report came in too late to be totalled with the above reports.

FORT SAN, Dec. 22, 28 mi. by car in 10 mi. area, 3¼ hrs. 9 species, 208 individuals. Golden Eagle, 1;
Downy Woodpecker, 3; Black-bille
Magpie, 7; Black-capped Chickade
12; Northern Shrike (?); House Spa
row, 70; Evening Grosbeak, 3; Re
poll, 110; Snow Bunting, 1. (Ad
Common Merganser, Ruffe
Grouse, Hairy Woodpecker, Blue Ja
White-breasted Nuthatch, Bohemia
Waxwing, Pine Grosbeak.) — **Ja**
Lowe, Errol Cochrane, John Lenno
E. M. Callin.

Goshawk Trapping in Alberta

By **A. F. Oeming**, President, Edmonton Zoological Society

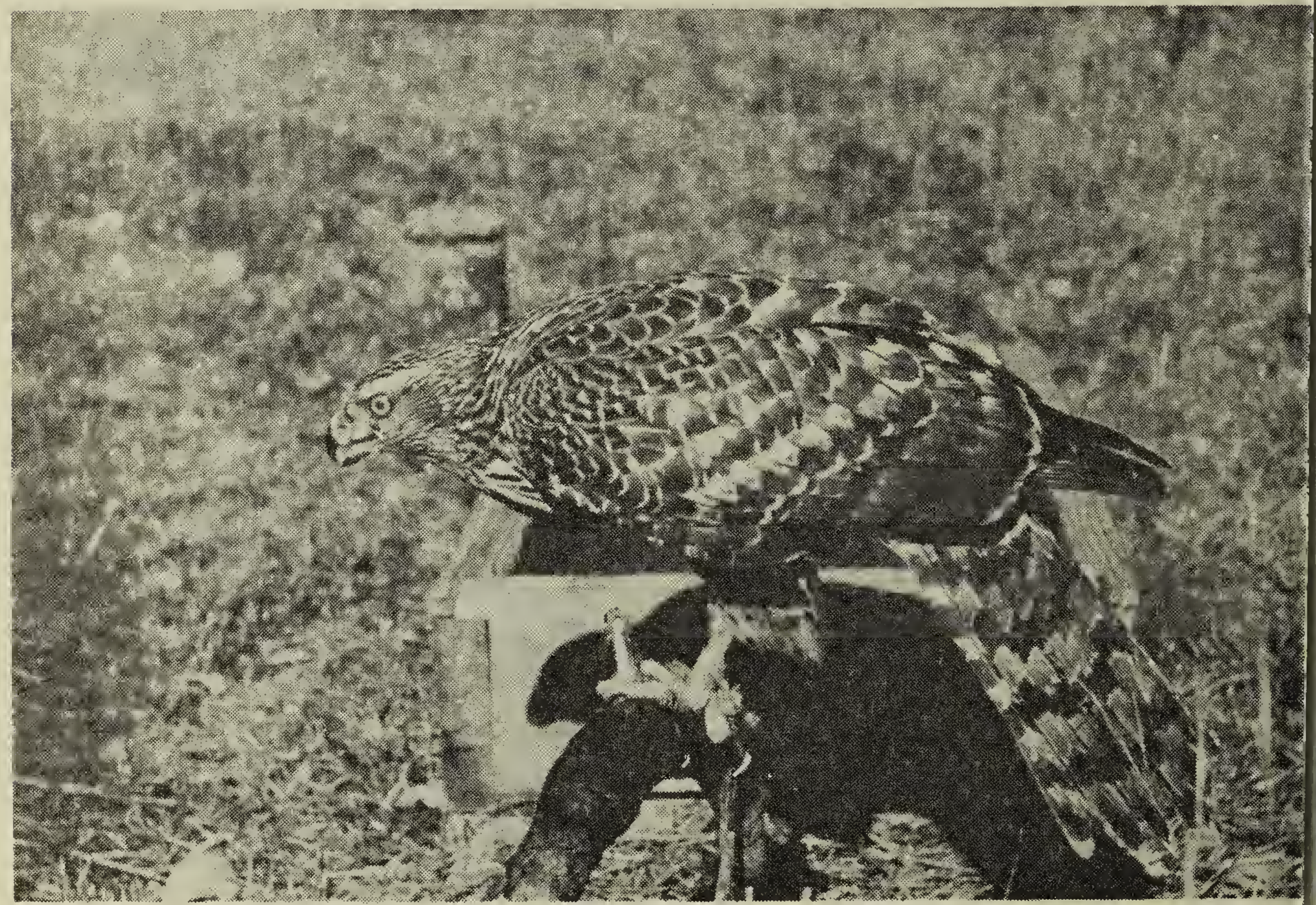


Photo by Heinz Meng

Immature female Goshawk on bow perch.

My interest in the live trapping of the Goshawk, *Astur atricapillus*, was prompted by an active interest in the art of falconry and a desire to band a number of these not too common raptors. From 1949 to 1951 I took a small number of birds, using such laborious trapping methods as the hand bow-net with tethered pigeons. Not until the year 1952, and after a considerable number of trapping techniques had been experimented with, did I manage to devise a fool-proof method that would allow for a worthwhile number of Goshawks to be captured each season. This was through the use of the
Swedish Goshawk trap (Figure
of a pattern similar to those used
the gamekeepers of Sweden. T
trap has the advantage of not
quiring constant supervision. Ot
traps used, such as the automa
bow-net and various German mak
invariably cramped the captive b
so that in its struggles in the t
much of its plumage was dama
A bird with any part of its plum
damaged is of no value to a falco
The Swedish trap, when well net
allows the newly captured Gosha
to move from end to end freely
with no feather damage. The Sw
ish trap is simple to build and o

ate and the Goshawks enter it with a minimum of delay. We always used live pigeons as lures. The pigeons are so enclosed that they are never in danger of being injured by the Goshawks.

The location of such a trap is the all important feature of Goshawk trapping. It should be placed on a high knoll or hill, preferably along a wooded river valley. Goshawks follow such valleys and seldom miss spotting the pigeons in the trap. The hill itself must be ringed with woods for the Goshawk is fond of making its attack with a short fast flight from a treed area. Traps set in wide open fields were never successful.

Goshawks begin their fall and winter movements towards the end of August. In the early fall there is often a sudden run of Goshawks that will last for the better part of a week, and this is often the case again in mid-winter. No trapping is carried on in the breeding and nesting season. Trapping is usually begun in September and is carried on until the end of March.

For a number of years I have searched some of the heaviest wooded regions in Northern Alberta, looking, among other things, for nesting Goshawks. I have, to this date, found only six nests of this species. The rather remarkable run of Goshawks in the trapping season might well indicate that these birds have moved in from areas of some distance. The Goshawk does nest to the limit of the treeline, north.

The majority of the Goshawks trapped were sent out to members of the Falconry Club of America and trained for hunting. Others were banded.

The table showing the dates, ages and weights of birds captured is rather interesting. Of the 54 Goshawks listed in the table the ratio of males to females is 1:1. The ratio of immature birds to mature is 2:1. It was not difficult to distinguish the mature birds from the immature for all the immature birds still had the brown plumage of the juveniles, and the mature birds had handsome blue and slate gray colouring. Eye colour in the mature birds is always a brilliant orange-red while the immature birds show the yellow iris. One can distinguish male and female Goshawks on the basis of size alone. A large female Goshawk appears almost twice the size of an average male bird. The largest bird that I captured was a female weighing 2 pounds and 14 ounces. The lightest bird captured was an immature male weighing 1 pound, 8 ounces.

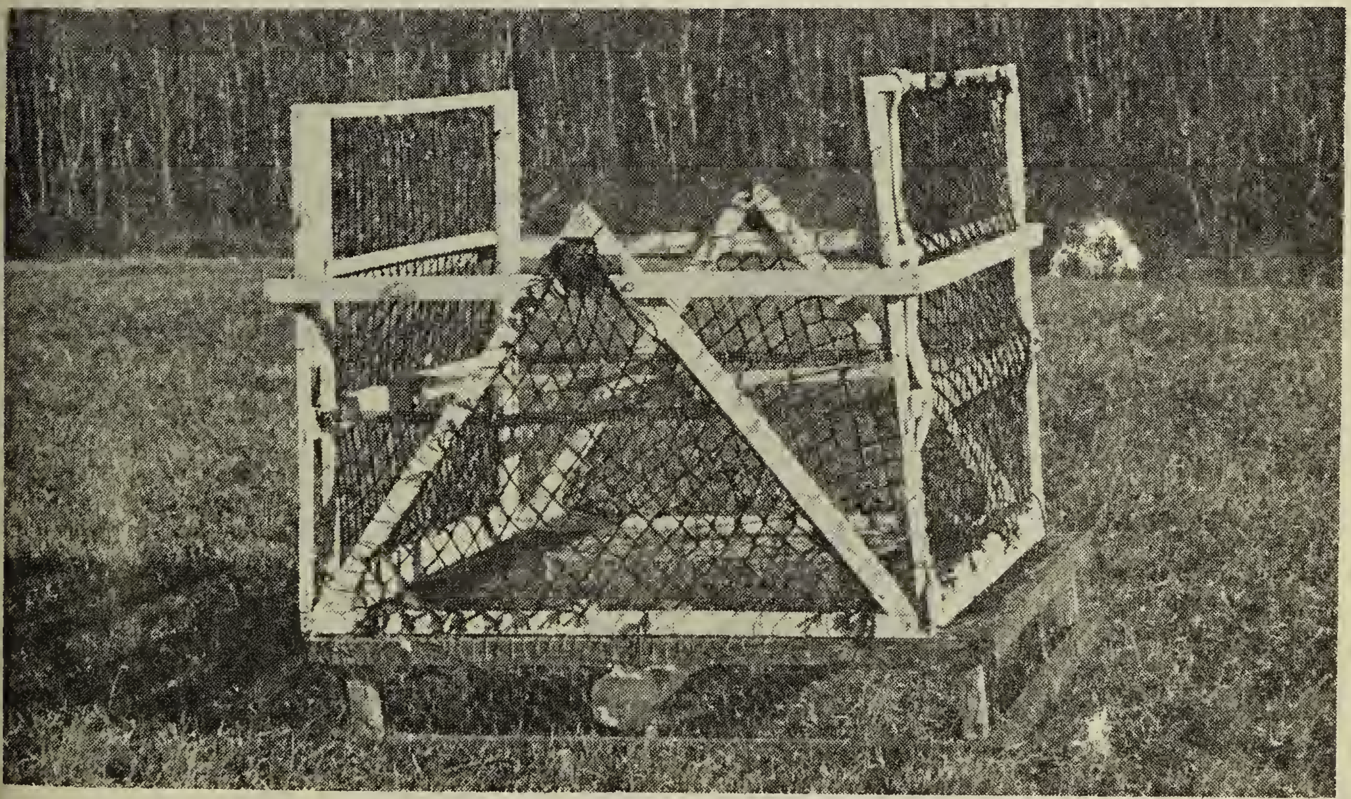


Photo by A. F. Oeming.

he Swedish style Goshawk trap. Goshawks enter the trap from the top. They land on a centre tick which is hinged in the middle and collapses immediately with the weight of the hawk. pringed sides close the trap. This trap would provide a humane method of removing predators om game farms, for Great Horned Owls as well as Goshawks are readily taken in such a trap.

Table 1.

Weights of Goshawks Captured

1952-1957

Date	Sex	Age	Wt.	Loc.
Feb. 6, 52	M	I	1-12	Fl.
Jan. 30, 53	M	I	2-0	Fl.
Feb. 5, 53	M	I	2-0	Fl.
Feb. 10, 53	F	I	2-5½	Fl.
Feb. 12, 53	M	A	1-15	Fl.
Feb. 14, 53	F	I	2-7	Fl.
Mar. 4, 53	M	I	1-13	Ed.
Mar. 4, 53	F	I	2-5½	Ed.
July 5, 53	M	I	1-12	Fl.
Sep. 20, 53	M	I	1-11	Fl.
Sep. 27, 53	F	I	2-4	Fl.
Sep. 30, 53	F	A	2-3	Fl.
Oct. 27, 53	M	A	1-9	Fl.
Dec. 10, 53	F	A	2-12	Ba.
Dec. 14, 53	M	A	1-14	Ba.
Dec. 23, 53	M	A	1-15	Ba.
Oct. 20, 54	M	I	1-8	Ed.
Nov. 19, 54	F	A	2-10	Ed.
Nov. 20, 54	F	A	2-11	Ed.
Nov. 21, 54	M	I	1-15	Ed.
Dec. 1, 54	M	A	2-1	Ed.
Dec. 1, 54	F	A	2-10	Ed.
Dec. 6, 54	M	I	2-3	Ed.
Dec. 6, 54	M	I	1-13	Ed.
Dec. 7, 54	F	I	2-5	Ed.
Dec. 10, 54	F	I	2-11	Ed.
Feb. 22, 55	M	I	1-14	Ed.
Feb. 24, 55	F	I	2-11	Ed.
Mar. 2, 55	M	I	2-0	Ed.
Mar. 14, 55	M	A	2-1	Ed.
Dec. 4, 55	M	I	2-3	Ed.
Dec. 4, 55	M	I	1-13	Ed.
Dec. 8, 55	F	I	2-9	Ed.
Apr. 2, 56	M	I	2-0	Ed.
Sep. 2, 56	F	I	2-9	Ed.
Oct. 15, 56	F	I	2-9	Ed.
Oct. 25, 56	F	A	2-9	Ed.
Oct. 26, 56	M	I	1-14	Ed.
Nov. 1, 56	F	I	2-9¾	Ed.
Nov. 2, 56	F	A	2-6½	Ed.
Nov. 4, 56	M	I	1-11	Ed.
Nov. 8, 56	F	A	2-14	Ed.
Nov. 8, 56	F	A	2-11	Ed.
Nov. 14, 56	F	A	2-10	Ed.
Nov. 18, 56	F	I	2-8	Ed.
Nov. 22, 56	F	I	2-10	Ed.
Nov. 25, 56	F	A	2-8	Ed.
Dec. 12, 56	M	I	1-14	Ed.
Dec. 15, 56	M	I	2-1	Ed.
Dec. 22, 56	M	I	2-3	Ed.
Jan. 11, 57	M	I	1-12	Ed.
Jan. 12, 57	F	I	2-12	Ed.
Feb. 14, 57	F	I	2-9	Ed.
Mar. 28, 57	F	A	2-6¾	Ed.

NOTE: Goshawks are classified a male or female, adult or immature Weights are given in pounds an ounces. The locations recorded abov are Fl. — Flatbush, Ed. — Edmonto and Ba.—Barhead.

Photo by Heinz Meng

Female Goshawk at nest with three youn Note mature plumage.

Table 2.

Summary: Numbers and Weights of Goshawks Captured

	Total Males	Total Females	Mature Males	Mature Females	Immature Males	Immature Females
Numbers of Goshawks	27	27	6	12	21	15
Average Weights	1-14.3	2-8.7	1-14.5	2-9.3	1-14.3	2-8.3

Whooping Cranes, 1958

By **F. G. Bard,** Saskatchewan Museum of Natural History, Regina

This year, 1958, will be the fourteenth year since the U.S. Fish and Wildlife Service and the Audubon Society began determined efforts to find the nesting grounds of the Whooping Crane. It is thirty-six years since the last whoopers' nests were found in Saskatchewan. Two nests were found in 1922 in the prairie region west of Saskatoon and north of the South Saskatchewan River, one by Neil Gilmour near Baliol on May 19 and the other, the famous "last" nest, by Fred Bradshaw at Muddy Lake on May 28. These finds were the reward of several years of checking reports of nesting cranes. The only known nests of the wild Whooping Crane in North America today are those under the watchful eyes of the Canadian Wildlife Service personnel who discovered the cranes' guarded secret in Wood Buffalo National Park in 1954.

Perhaps one of the greatest factors in the preservation of the Whooping Crane was the establishing of the Aransas National Wildlife Refuge in Texas in December 1937. Although this 47,000 acre refuge was intended primarily for waterfowl, it was known to be the wintering ground of 19 Whooping Cranes. The other 11 birds were in Louisiana and a wounded captive bird was in Nebraska.

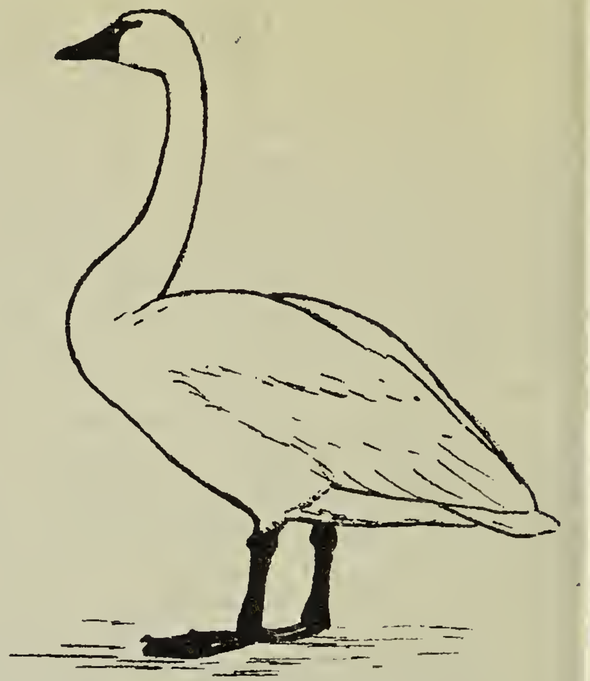
The Louisiana flock rose to 13 in 1939 and fell rapidly as follows: 6 in 1940, 6 in 1941, 5 in 1942, 4 in 1943, 3 in 1944, 2 in 1945, 2 in 1946, 1 in 1947 and 1 in 1948.

In the winter of 1940-41 the Aransas flock increased to 26 birds including 5 young of the year. The Aransas flock dropped suddenly in the fall of 1941 to 15 birds. These sudden losses gave cause for alarm and no doubt prompted the survey program that began in 1945. The publicity given the survey stressing the urgent need for protection of the cranes has accomplished a great deal in reducing losses in migration. Losses still occur and in some years are serious. The crash decline of the Louisiana flock in 1940 reduced the crane population there to a level too low for the cranes to stage a comeback. A similar loss occurred as suddenly in 1941 in the Aransas flock. Urgent appeals for safe passage for the birds in migration are proving very worthwhile but these alone will not bring the Whooping Crane out of the danger zone! The lack of regular production on the nesting grounds indicates a need for a research team working in that area. At the Aransas Refuge, research could determine the pressures on the wintering flock and the measures necessary for their constant protection. Weather, inadequate food, disease, shooting, land use and traffic are but a few of these pressures; and it is important to realize that conditions vary from day to day, season to season, and year to year.

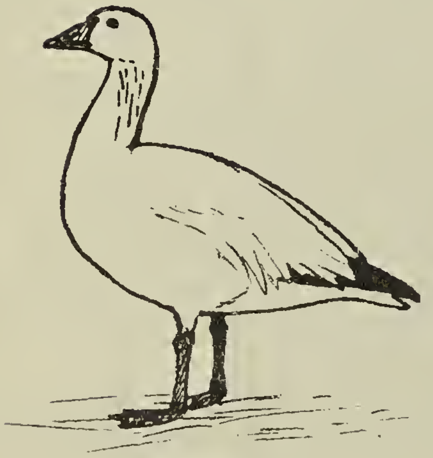
This past year we saw the value of aviculture. Under the care of George Scott two captive birds in the Audubon Zoo at New Orleans produced two young, while twenty-one wild birds succeeded in raising only four young. This would seem to argue in favour of a stepped-up management program. A small captive group of whoopers through management could produce more young than are lost in each decade. Further experiments in raising sandhills could be carried on to provide some of the answers to the problem of successfully establishing whoopers in new areas so as not to have "all our eggs in one basket." Several plans are being considered which will help to increase the numbers of the wild flock, and only as a last resort should we allow the whooper to degenerate into a captive bird!

The world's whooper population as reported by the United States Fish and Wildlife Service for January, 1958 is 31. Of these, five are in captivity—the two parent birds with the two successfully reared young in New Orleans, and one in San Antonio; and 26 are free—24 on the Aransas Refuge and two on nearby Matagorda Island. Twenty-one birds started the long flight to the Canadian nesting grounds last spring, and 24 returned to Aransas in the fall. Since the 24 birds included 4 young, one adult bird was obviously missing. The other loss for the year was one of those that remained on the Gulf and which died on the Aransas Refuge.

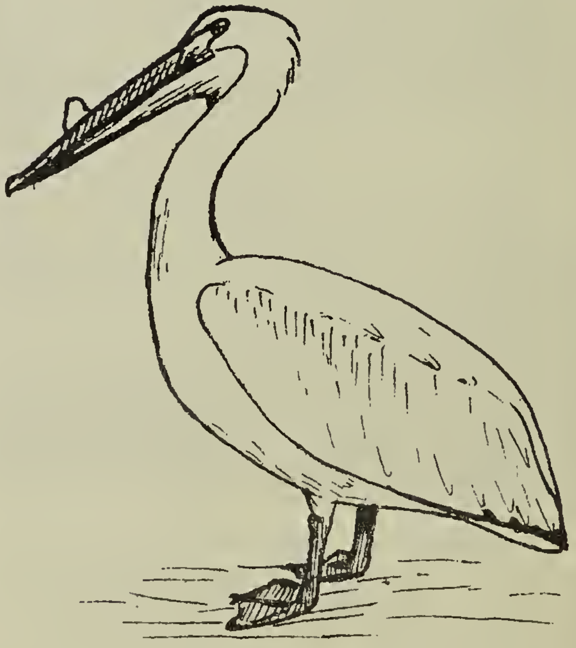
WHOOPING CRANE



WHISTLING SWAN

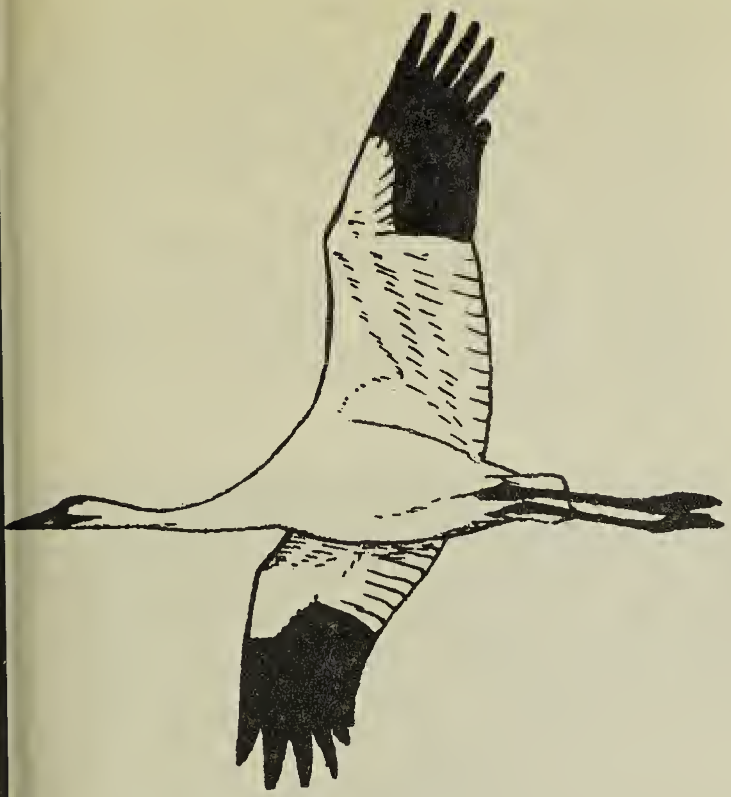


SNOW GOOSE

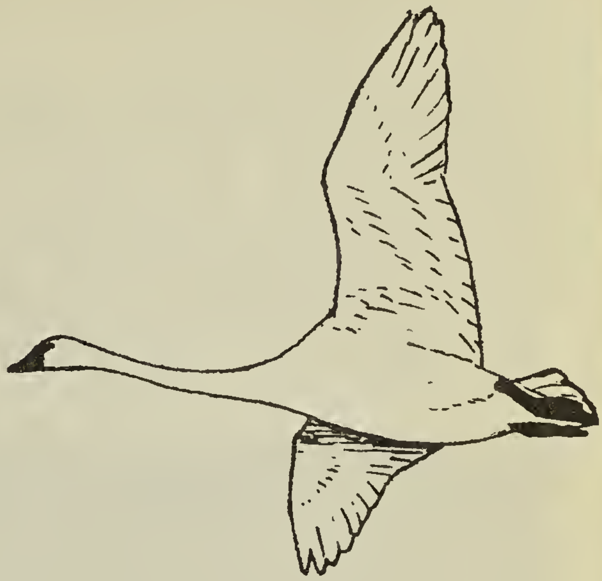


WHITE PELICAN

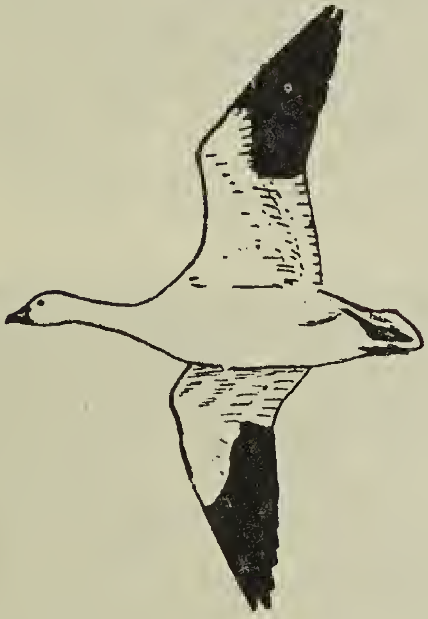
Why should we try to save the Whooping Crane? Whether or not the dangerously small number of Whooping Cranes is increased is perhaps not too important, but what we, as wildlife conservation agencies, are doing is important. The protection of the Whooping Crane presents one of the greatest conservation challenges of our time, and helps us to realize how important it is to conserve our wildlife resources. In terms of economic value alone, one might point out that the cranes las year drew 33,000 tourist visitors to the Aransas Wildlife Refuge. From every point of view, it is importan to preserve refuges where wildlife i protected. As we become a nation o city dwellers, we will find these recreational areas increasingly important.



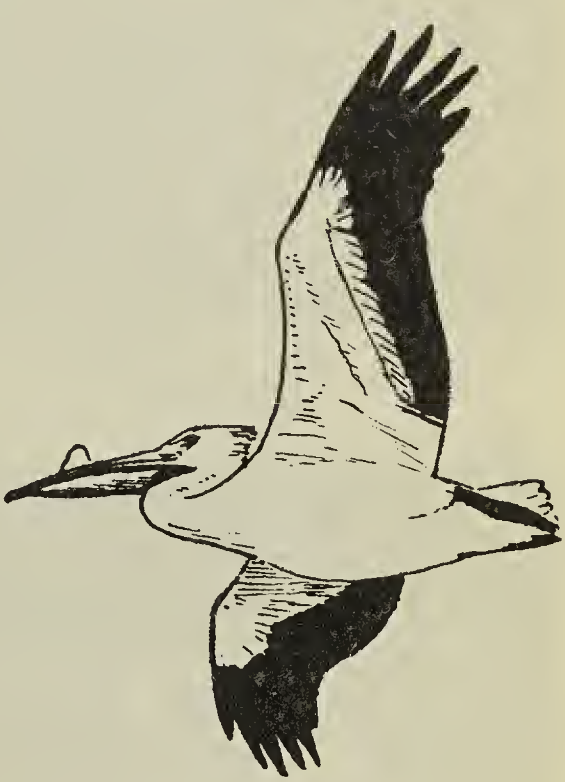
WHOOPING CRANE



WHISTLING SWAN



SNOW GOOSE



WHITE PELICAN

Until a definite policy is formulated for the management of the Whooping Crane, we must go on urging "safe passage" for them. We are glad to see the attention of the public being drawn to these birds by the recently issued American 3 cent stamp which pictures the two adult cranes with their two young. Here in Saskatchewan we can watch for the whoopers in spring migration. April 12 is the approximate date on which they leave the Aransas Refuge; and the earliest recorded arrival for Saskatchewan is April 13. Whooping Cranes may linger throughout April, but all *breeding* birds will have left the prairies by the end of the month. Whooping Cranes observed feeding should be reported to your nearest Conservation Officer or Wildlife Division. The cranes usually stop over several days, giving ample time for field checking. In the meantime, do not disturb them!

The accompanying sketches by Fred Lahrman illustrate birds similar in appearance to the Whooping Crane. Check the legs—are they longer or shorter than the tail? Note the position of the head and neck—is the head hunched on the shoulders as in herons and pelicans or is the neck straight as in swans and geese? Finally, check the colour—is the light falling on the bird or is there backlighting? Flocks of Sandhill Cranes should be watched for whoopers. We have seen several whoopers in flocks of Sandhills.

Your interest in, and support of, the Whooping Crane survey is appreciated. From your reports we were able to field check 11 Whooping Cranes in Saskatchewan in the fall of 1957.

Photo by Fred Lahrman

Whooping Cranes photographed at Pierceland, Sask., October 13, 1957.

Photo by Fred Lahrman

Whooping Cranes alerted. Pierceland, Sask., October 13, 1957.

Bird Notes

YOUNG SANDHILL CRANES Banded near Dafoe, July 17, 1957.— Two young Sandhill Cranes were captured on July 8, 1957 by Gordon Staines on the Kutawagan flats southeast of Dafoe. They were captured again on July 17 for banding. On this date, the larger of the two cranes could almost fly. Two adults were with the young. These were the only two young found, but the area is large and there could easily have been more without anyone being aware of it. The accompanying photograph shows Jack Sterling and Larry Kimberly with the two cranes.—Tom Sterling, Ducks Unlimited, Wynard.

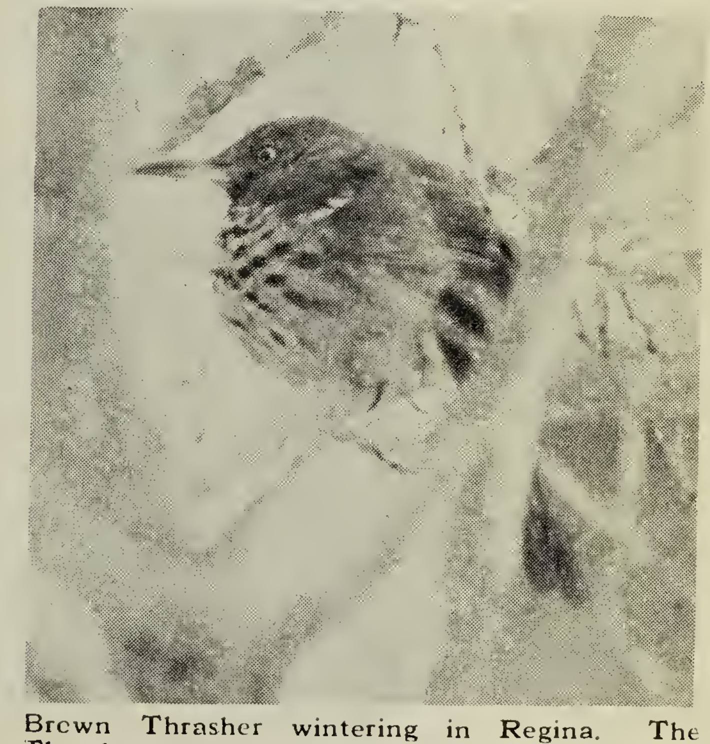
SWIMMING HUNGARIANS!!

By W. J. DOUGLAS STEPHEN
easonal Technical Officer, Canadian Wildlife Service.

About sundown, on July 15, 1957, the Brittany Spaniel used by our mallard-banding crew flushed a covey of Gray Partridge (Hungarian Partridge) from the bank of a large lough near Dewar Lake, Saskatchewan. Three of this covey flew out over the water and eventually setled into it about 20 yards from hore. Almost immediately one of hem began swimming toward us. One of the others after a short period lso swam toward the shore. The ate of the third partridge chick is nknown, its having been forgotten n the excitement of observing and ilming the other two swimming birds nd the resumption of banding activities.

These chicks were estimated to be bout half-grown. While they still had down with juvenile markings on the head and back, the flanks, breast, and wings were mostly feathered. The first partridge chick to reach shore seemed to be unsteady and only made feeble attempts to escape before it was picked up for examination. It appeared to be tired after this experience and when released it crouched and "froze" in the shadow of a stone at our feet. The second partridge, possibly because it did not swim as far, did not show the same unsteadiness as it scrambled over the stones along the shore, disappearing into the shrubby cover apparently unharmed.

The action of these partridge chicks swimming the last few yards to shore, the examination of the first arrival, and the behavior of both chicks upon return to dry land is recorded in 16 mm. cine film sequences by Frank O'Reilly and the author.



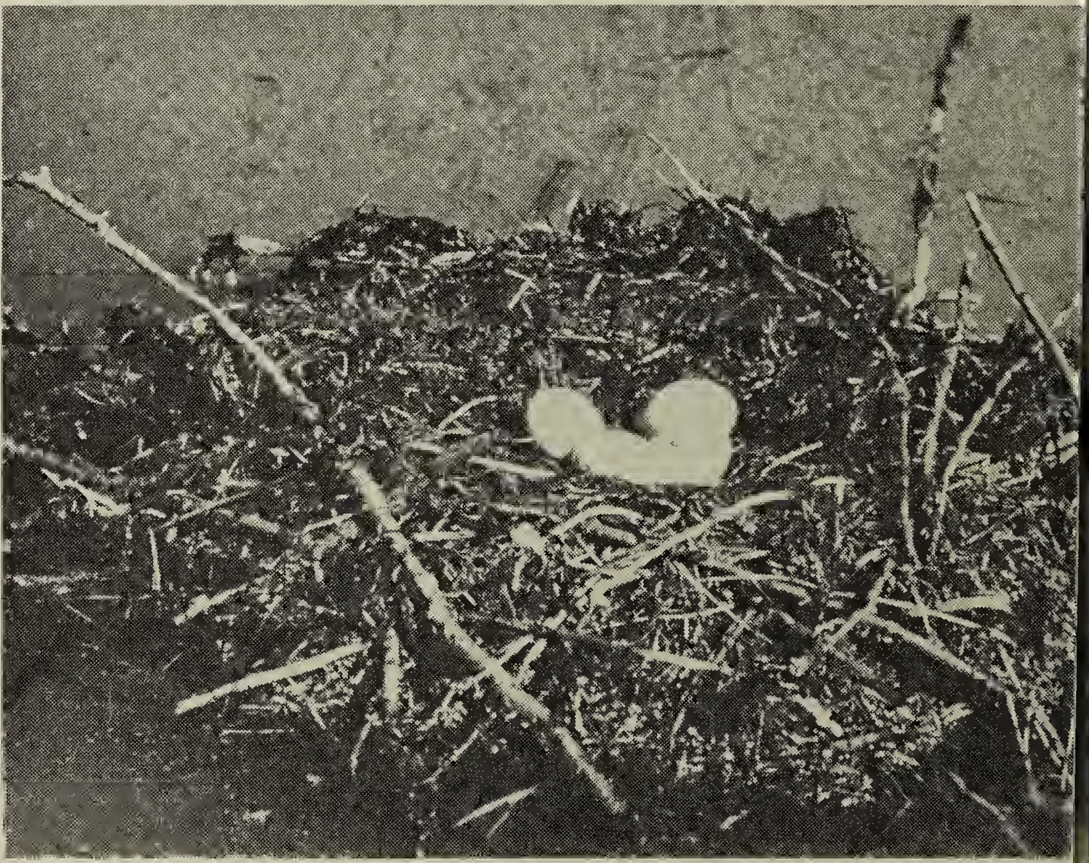
Brown Thrasher wintering in Regina. The Thrasher, reported to the Museum by Mrs. W. G. MacDougall of 2926 Rae St., was photographed on January 3, 1958, by F. W. Lahrman.

PURPLE FINCHES Nesting at Spirit Lake — Purple Finches arrived at Spirit Lake on April 24, 1958, and had left by May 17. However, two remained to nest and on June 19 were seen feeding one young bird that had just left the nest. This is the first record we have of finches nesting here. — Joyce Gunn, Spirit Lake, Sask.

Wes

Ph

Nesting Weste Grebe colony Valeport

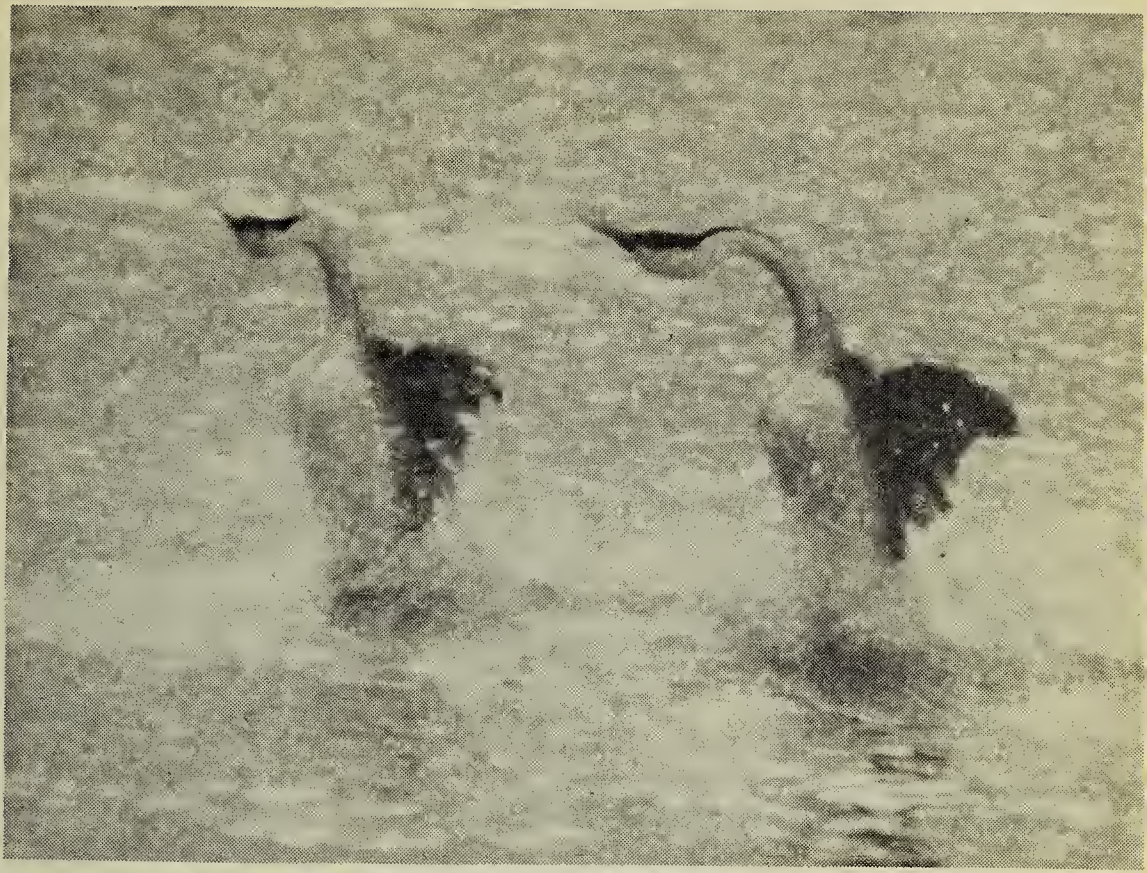


Typical floating nest of Western Grebe

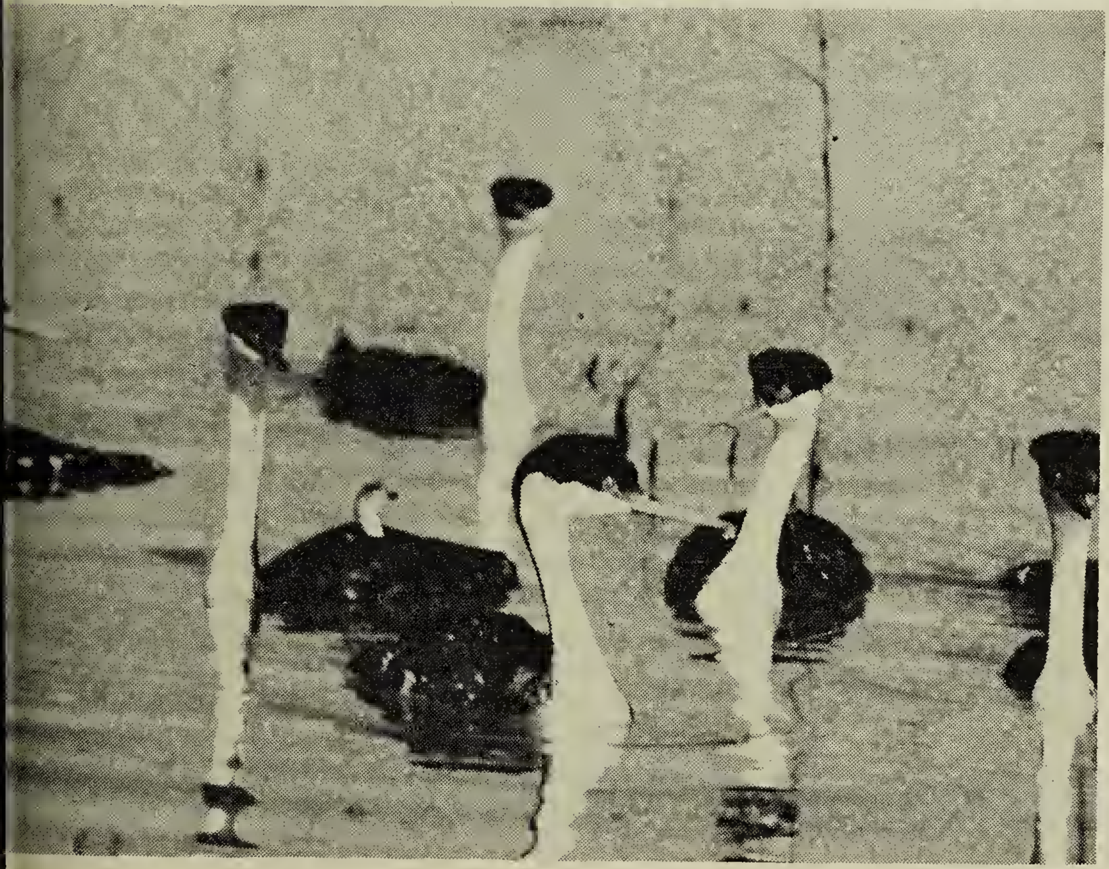
Courtship behaviour of a pair of Western Grebes

be

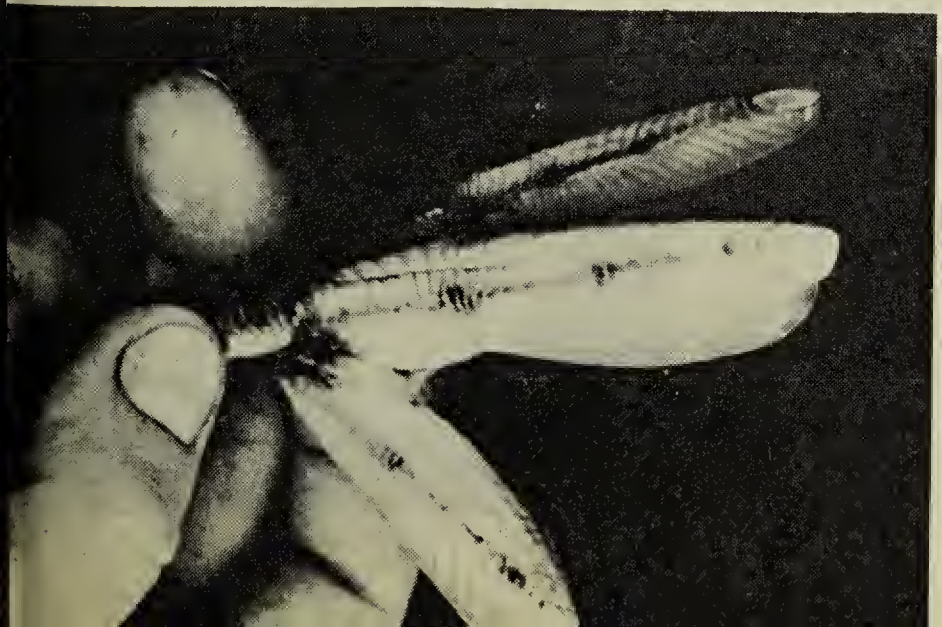
Lahrman



"Water dance" of the Western Grebe



Group of Western Grebes. Note young bird on its parent's back



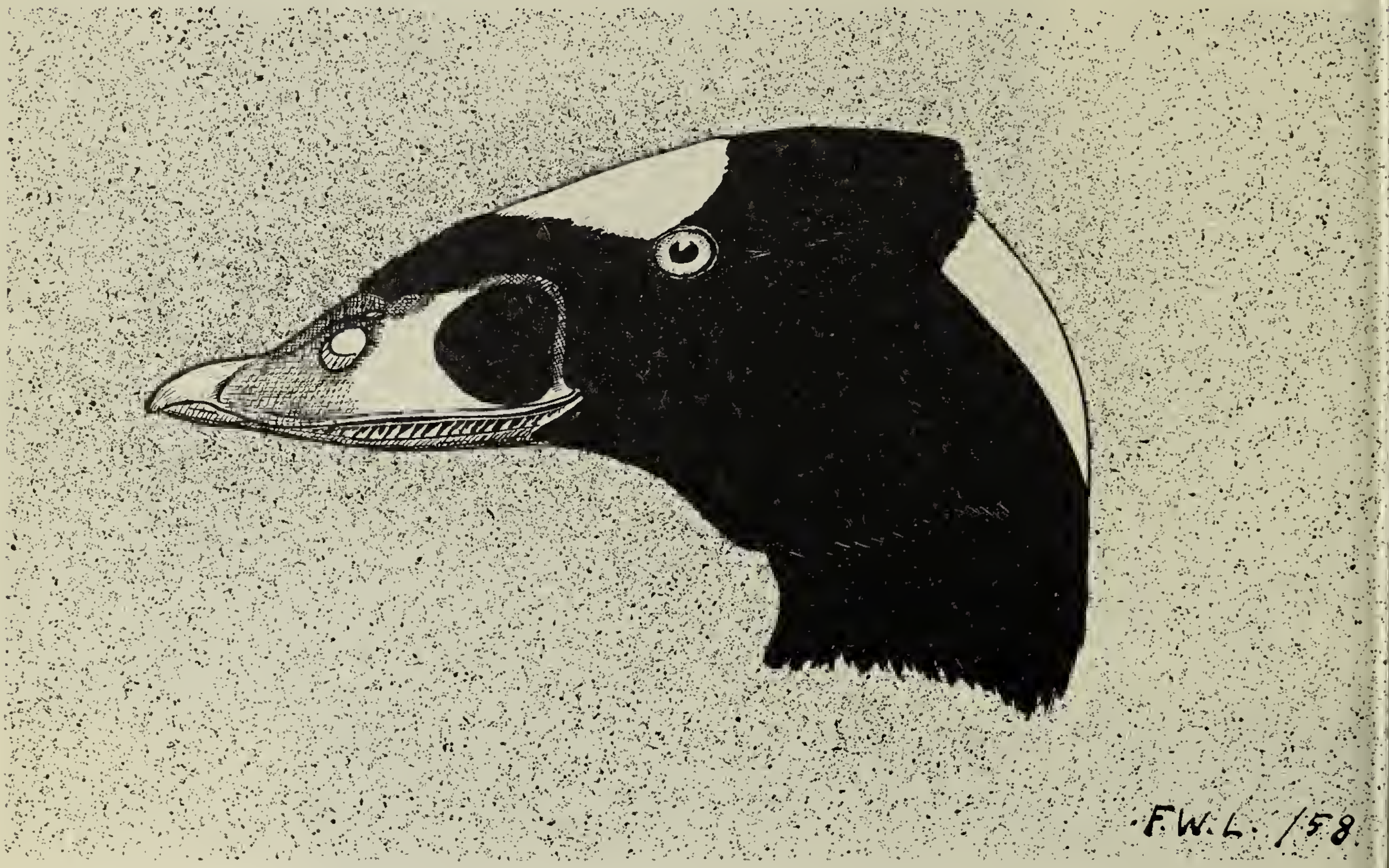
Foot of Western Grebe showing flattened lobes and nails

INFORMATION WANTED:

Anyone with information concerning the location of breeding sites of the Western Grebe (*Aechmophorus occidentalis*) is invited to correspond with R. W. Nero, Saskatchewan Museum of Natural History, Regina

Surf Scoter Records

By **Fred W. Lahrman**, Saskatchewan Museum of Natural History



On November 13, 1957 the Saskatchewan Museum of Natural History received a beautiful specimen of a bird which is very rarely seen on our prairies—a Surf Scoter (*Melanitta perspicillata.*)

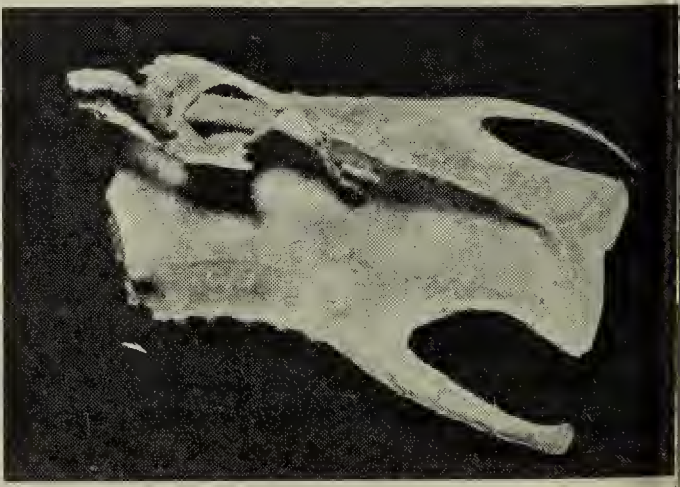
This Scoter, an adult male, was received from Mr. Les McKenzie of Moose Jaw. It was found frozen in the ice after the storm of November 10-12, 1957, south of Regina near the junction of Nos. 1 and 6 highways, by Mr. Herbert Stouer of Wadena. It was alive when found but died soon after.

While the bird was being prepared as a study skin for the Museum collection, it was discovered that it had been badly injured sometime during the past. The keel or breast bone had been shattered, apparently by shot pellets, and had healed completely in the odd shape shown in the accompanying photo. A No. 4 shotgun pellet was also found lodged in the gizzard, encased in a tough skin covering indicating an old wound. This is an interesting example of the recuperative powers of a bird in the wild.

The Museum has one other Surf Scoter specimen, another male which was taken at Lake Ile a la Crosse, May 31, 1914 by A. Buchanan.

Apparently, other records of the Surf Scoter in the province are few. H. Hedley Mitchell. 1924, **Catalogue of the Birds of Saskatchewan** states "... found breeding at Lake Athabasca, downy young taken August 19, 1920 by U.S. Biological Survey Party."

A sight record of a Surf Scoter at York Lake, Yorkton, by Ronald and Donald Hooper, on October 26th, 1953 is recorded in the **Blue Jay** (Vol. 11 No. 4, p.9). I observed an immature male Surf Scoter on the Wascana Marsh (which is now in the Regina Waterfowl Park) on November 12 1950, and Lucy Murray reports having seen one on Wascana Lake, Regina, October 17, 1957.



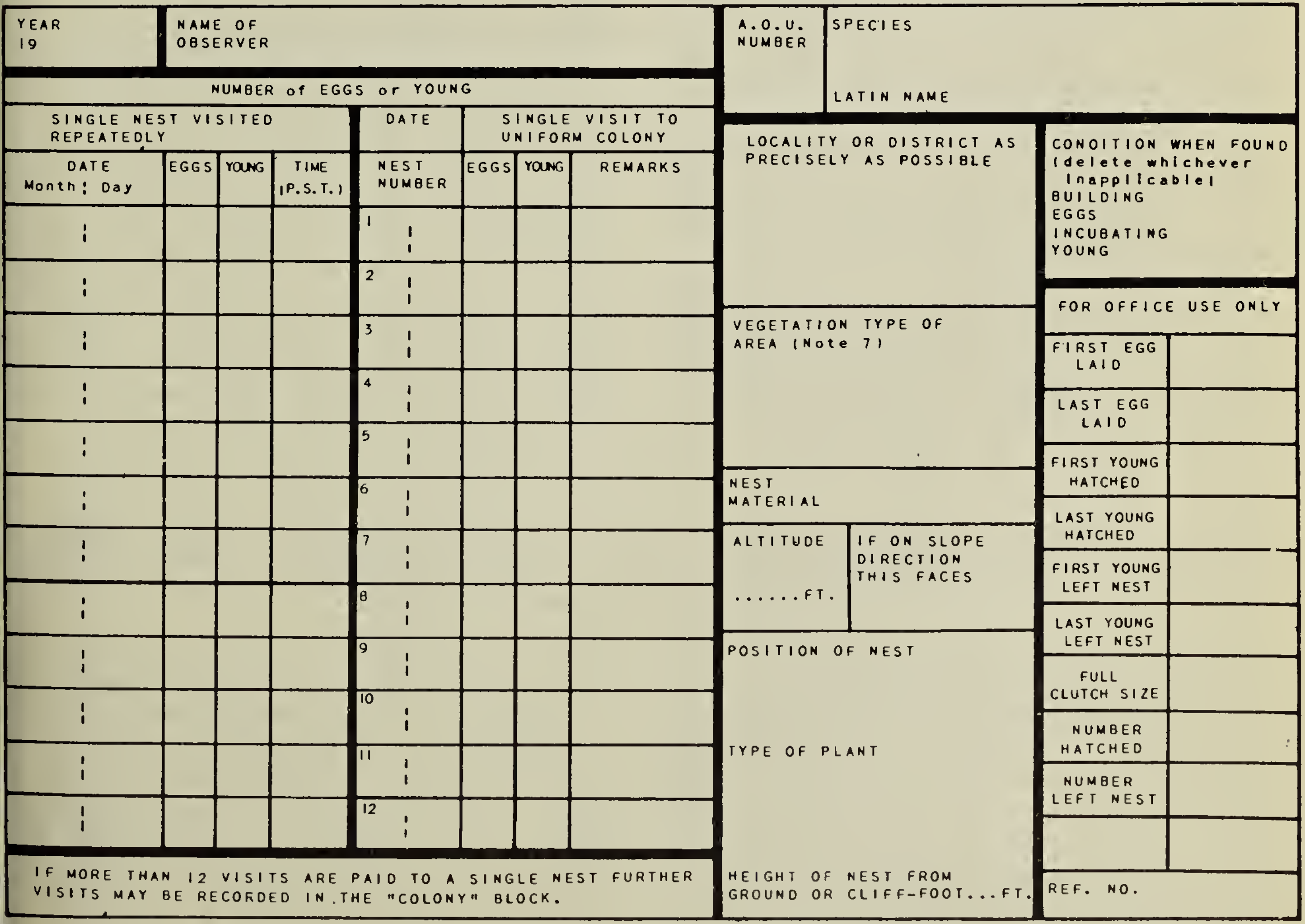
Prairie Nest Records Scheme

By **E. L. Fox**, Regina

In the spring of 1958, the Saskatchewan Museum of Natural History in co-operation with the Saskatchewan Natural History Society plans to initiate a scheme to collect information on the nesting of common birds in the Prairie Provinces. The nest records scheme is based on similar schemes operated successfully elsewhere. Since 1939, the British Trust for Ornithology has filed at a central repository some 60,000 nest record cards sent in by its members. Currently, some 10,000 cards are sent in each year. A similar scheme was organized by M. T. Myres at the University of British Columbia in 1955, and the Department of Ornithology of the Royal Ontario Museum started a nest records scheme in Ontario in 1956. These records have contributed valuable information to our knowledge of the breeding biology of birds.

An investigation of the breeding biology of any species of bird requires that a hundred to a thousand nests a year be reported on. This may only be done by a co-operative effort. Nest record cards are being printed and will be available to anyone wishing to assist in gathering information. Co-operators are asked to record such things as clutch and brood size, nest site, habitat, cause of nest failure, etc. In addition, each visit to the nest is recorded and any changes that take place are noted. When completed, the card should be mailed to the Prairie Nest Records Scheme, c/o Mr. F. W. Lahrman, Saskatchewan Museum of Natural History, Regina, or to Mr. E. L. Fox, 1053 Gladmer Park, Regina. The cards will be checked by the committee and maintained at a central file at the Saskatchewan Museum of Natural History.

The face side of the British Columbia card is shown here. The Prairie nest record card will be similar. Instructions for its use are printed on the reverse side. However, a few additional remarks may be of assistance.



YEAR
19

NAME OF OBSERVER

A.O.U. NUMBER

SPECIES

LATIN NAME

NUMBER of EGGS or YOUNG

SINGLE NEST VISITED REPEATEDLY				DATE	SINGLE VISIT TO UNIFORM COLONY		
DATE Month : Day	EGGS	YOUNG	TIME (P.S.T.)	NEST NUMBER	EGGS	YOUNG	REMARKS
:				1 :			
:				2 :			
:				3 :			
:				4 :			
:				5 :			
:				6 :			
:				7 :			
:				8 :			
:				9 :			
:				10 :			
:				11 :			
:				12 :			

IF MORE THAN 12 VISITS ARE PAID TO A SINGLE NEST FURTHER VISITS MAY BE RECORDED IN THE "COLONY" BLOCK.

LOCALITY OR DISTRICT AS PRECISELY AS POSSIBLE

CONDITION WHEN FOUND (delete whichever inapplicable)
BUILDING
EGGS
INCUBATING
YOUNG

VEGETATION TYPE OF AREA (Note 7)

NEST MATERIAL

ALTITUDE
......FT.

IF ON SLOPE DIRECTION THIS FACES

POSITION OF NEST

TYPE OF PLANT

HEIGHT OF NEST FROM GROUND OR CLIFF-FOOT...FT.

FOR OFFICE USE ONLY

FIRST EGG LAID	
LAST EGG LAID	
FIRST YOUNG HATCHED	
LAST YOUNG HATCHED	
FIRST YOUNG LEFT NEST	
LAST YOUNG LEFT NEST	
FULL CLUTCH SIZE	
NUMBER HATCHED	
NUMBER LEFT NEST	

REF. NO.

Face-side of card (reduced) used in the British Columbia Nest Records Scheme.

1. One card should be completed for each nest found, even if only one visit is made. The only exception to this is for a single visit to a colony-nesting species. In this case (under visits), use one line for each nest.
2. Record all cowbird eggs or young.
3. Be accurate. Record only actual observations on the face side of the card. Any additional information such as the cause of failure, nest materials used, or food, may be put on the back of the card.

It is hoped that all professional and amateur observers will participate in this scheme by reporting their observations on a nest record card. A good example of the kind of accurate and detailed information that amateur observers can provide is given in the informal Barn Swallow nest record that follows this article. We print Mr. Jasper's record to illustrate the kind of observations which can be usefully recorded on the nest record card. For a supply of cards or additional information write:

Prairie Nest Records Scheme
c/o Mr. F. W. Lahrman
Saskatchewan Museum of Natural History
Regina, Saskatchewan

or Mr. E. L. Fox
1053 Gladmer Park
Regina, Saskatchewan

A BARN SWALLOW NEST RECORD

By **W. E. Jasper**, Struan, Sask.

The first Barn Swallow arrived here on May 2, about 10 days earlier than usual. In a few days he was joined by his mate. They soon got busy building in a bin I had left open for them, and it wasn't too long before they had two eggs. Then something happend. On going into the bin next morning I found one swallow dead on the floor. The other just sat around outside for about a week. As the eggs were deserted I took them out of the nest. I think it was the next morning that I noticed the swallow was gone.

In about two days the swallow which had left was back again with another mate. A day or two later, on June 12, I looked in the nest again and found one egg. On June 13 there were two eggs, on June 14 three on June 15 four and on June 16 five. The eggs were laid each morning between 5:30 and 7:00 a.m. On July 1 swallows were out of the eggs, and on July 20 the first young left the nest. On July 21 four were out of the nest and the fifth left on July 22.

By August 1 the five young had moved off. But the old pair stayed. This time they took the notion to build a nest in the garage. As we did not want them building in the garage, we kept the doors shut most of the time. However, whenever the doors were open in the day time they went to work again. Even though the bin where they had raised the five was open for them they did not bother about it. As they could not get much done at the nest in the garage, they seemed to decide that it would be too late in the season by the time they got it built and so they left for the south.

New Plant Records for Saskatchewan, 1957

By **John Howard Hudson**, Regina

During the summer of 1957 I had my best results collecting plants in the southeastern part of the province, especially in the lower Souris River valley. I found eight species which seem to be new to Saskatchewan; at least they do not appear in Breitung's recent authoritative catalogue of our flora (*American Midland Naturalist*, Vol. 58, pp. 1-72, July 1957). Three species here reported (Nos. 2003, 2016, and 2021) Breitung specifically excluded from our flora on account of lack of recent verification of old reports. All eight plants are found in North Dakota or Manitoba; good descriptions of them will be found in Stevens' *Handbook of North Dakota Plants*, and Fernald's edition of *Gray's Manual of Botany*. The plants are:

1993. *Celastrus scandens L.* Climbing Bittersweet. Among other shrubs on steep N-facing slope, S. bank of Souris River valley, S.E.¼ 6-2-7 W.2nd, across from the old powerhouse, Estevan, August 3. This is a twining shrub, 1.5 to 2 meters high, with alternate entire leaves, with no remarkable features except the seed pods. Reddish spherical capsules, about 8 mm. across, split when ripe to reveal yellow seeds embedded in a mass of scarlet fleshy tissue. A common North Dakota and southern Manitoba plant.

1996. *Buchloe dactyloides* (Nutt.) Engelm. Buffalo Grass. On dry gumbo flat in eroded shale in valley parallel to Souris River, S.W.¼17-2-8 W. 2nd, 2 miles W. of Estevan, August 4. This grass looks superficially like our Alkali grass (*Distichlis Stricta*) being short, stiff, and grey-green; but the tufts propagate by above-ground runners, not underground rhizomes. This grass is dioecious (only one sex per plant); male flowers much like those of Grama Grass (*Bouteloua gracilis*); pistillate heads in the leaf axils, small, oddly shaped and woody. Little if at all reported from Manitoba and Alberta; rare in Northern North Dakota (Stevens); a common grass of the American High Plains further west and south. I was very surprised and pleased to run across this plant; I would have expected to find it in the southwest corner of the province rather than in the southeast. But I have not seen it in the former corner, nor have I read of anyone else doing so.

1998. *Asclepias verticillata* L. Whorled Milkweed. On dry shaly gumbo prairie, south side valley bottom of Souris River, S.E.¼17-2-8W.-2nd, about 2 miles W. of Estevan, August 4. This small milkweed may be recognized by the narrow leaves (about 2 mm. wide) arranged in whorls on the stem (20-30 cm. high) and the typical milkweed flowers. These latter are whitish-yellow and much smaller than those of the familiar Showy Milkweed (*A. speciosa*), being about 4 mm. long. Common in North Dakota.

1999. *Carex gravida* Bailey. In open ash-elm woods, W. side valley of Short Creek in N.W.¼ 11-1-7 W.-2nd (about 4 miles S.W. of Roche Percée), Aug. 4. Much like our *C. hookeriana*, but not densely tufted, a short woody rhizome being present. Quite common in North Dakota.

2003. *Aster umbellatus* Mill. var. *pubens* Gray. Flat-top Aster. Moist aspen woodlands near edge of marsh, S. edge N.E.¼ 3-19-30 W.1st, 6 miles E. of Spy Hill, August 17. A big aster, about a meter high, with lance-elliptic pointed willow-like leaves, and many large (2-3cm.) white-rayed heads arranged in a flat-topped cluster up to 20 cm. across. Local in wooded marshes, eastern North Dakota; commoner in Manitoba and eastern Canada.

2016. *Helianthus tuberosus* L. var. *subcanescens* Gray. Jerusalem Artichoke. Shady woods (ash, elm, maple) along N. bank Souris River in N.E.¼36-1-3W.2nd, 6 miles north of Northgate, September 14. This big perennial yellow-centered sunflower is distinguished from our usual plants of this type (*H. giganteus* L. and varieties) by its broad-ovate leaves and the semi-edible tubers on the rhizomes. Common in North Dakota, especially eastward, and throughout the American Mid-West.

2017. *Eragrostis hypnoides* (Lam.) B. S. P. Creeping Lovegrass. Wet mud on bank of Souris River, S.E.¼ 16-1-34W.1st, 2 miles E. and 12 miles S. of Glen Ewen (2 miles from U.S. boundary), September 15. This small annual grass possesses prostrate branching culms rooting at the nodes, thus forming mats on mud. The spikelets look much like those of *Puccinellia nuttalliana* (Salt Meadow Grass) but the panicle is only a few cm. long. Occasional in eastern North Dakota and the central U.S.

2021. *Scirpus atrovirens* Willd. var. *pallidus* Britt. Dark-green Bulrush. Poplar bluff in ravine on W. side valley of Souris River, S.W.¼ 16-1-34 W.1st, 2 miles from U.S. boundary, September 15. This looks like several other species of cespitose bulrush with inflorescence of many small spikelets subtended by more than on leaf-lke bract, especially *S. microcarpus* Presl.; only technical characters will distinguish it. Common in North Dakota and the central U.S.

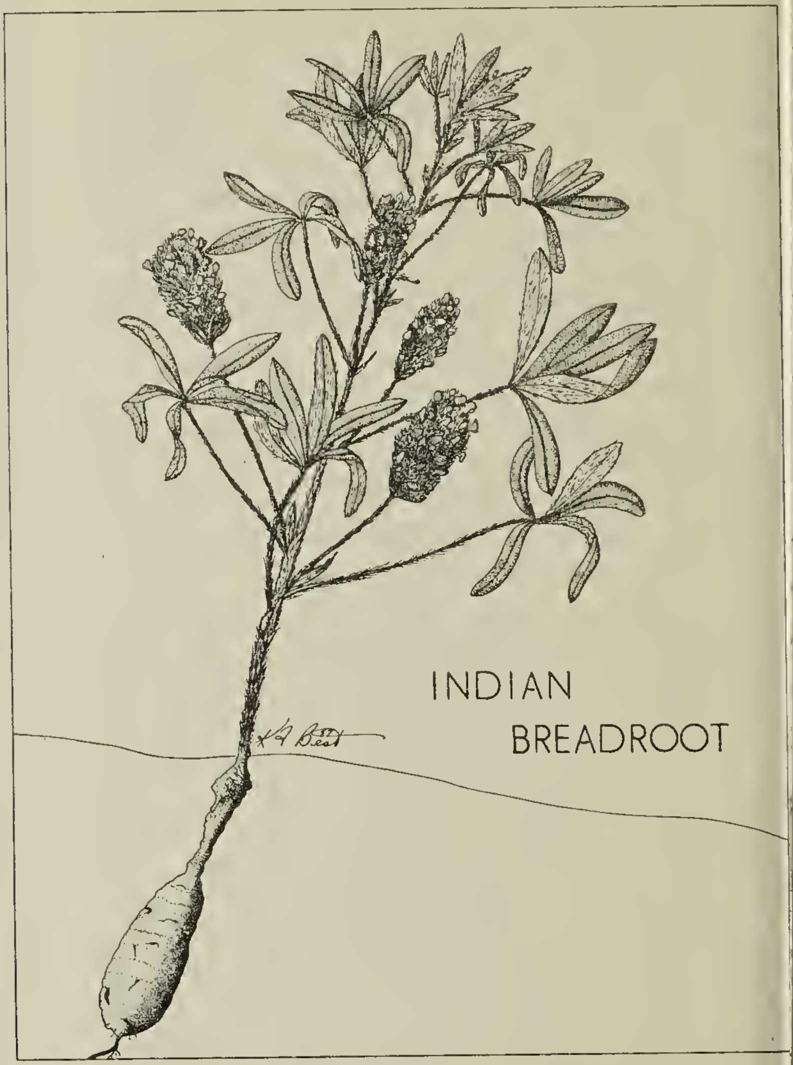
Duplicates of these specimens will be sent to the herbarium of the Department of Agriculture at Ottawa, and to the herbarium of the Dominion Laboratory of Plant Pathology at Saskatoon.

Edible Plants of Saskatchewan

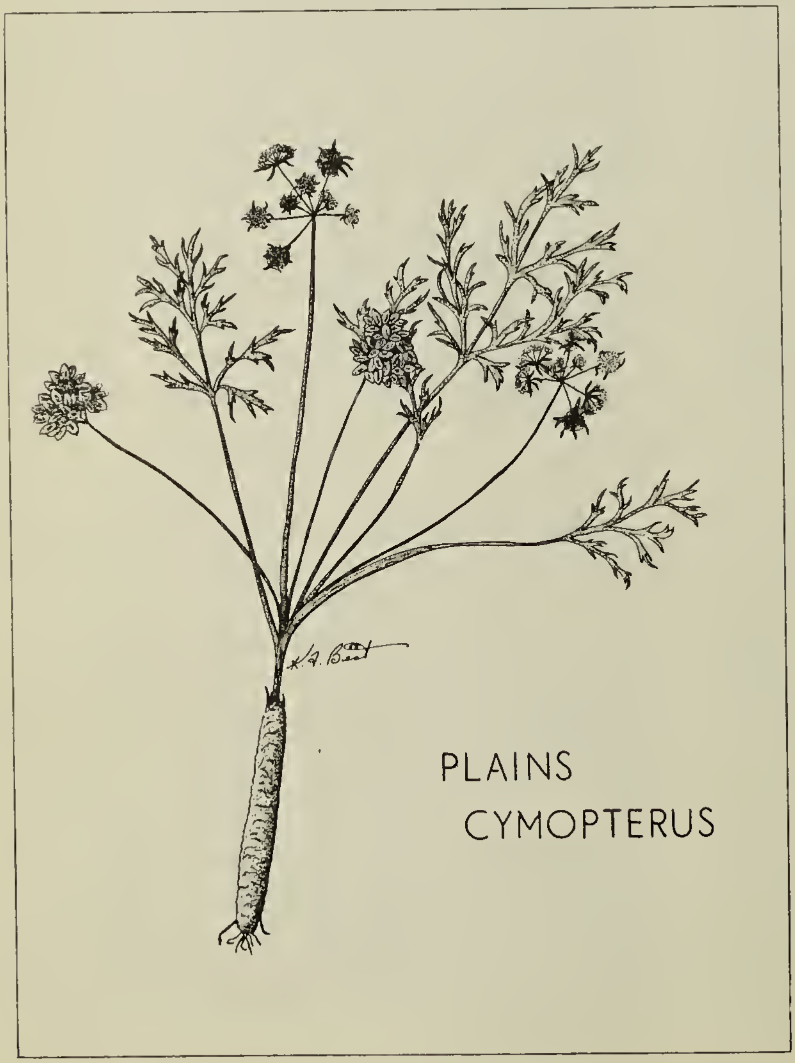
By **Keith Best** and **Archie Budd**, Swift Current, Saskatchewan

Although the staple food of the Saskatchewan Indian was buffalo meat, he also obtained much food from the native vegetation. The breaking up of the prairie sod, with the spread of settlement, has reduced, and in some cases almost eliminated, many of the edible plants, even though it has meant a great increase in the food stocks of the world. It must be borne in mind though that the plants relished by the Indian would not, of necessity, be palatable to us, as we have become used to less natural foods. Also "hunger is a good sauce" and the natural outdoor life of the plains Indian would make this sauce anything but scarce.

We will commence this series of articles on edible plants by describing some plants with palatable roots.



INDIAN BREADROOT



PLAINS CYMOPTERUS

Perhaps the best known o the edible roots is the Indian Bread-root, (*Psoralec esculenta*) a plant of th Leguminosae or Pea family This stubby little plan grows from 4 to 18 inche high and is densely clothe with loose white hairs. Th leaves are palmate with fiv leaflets each from ¾ to inches long and the inflorescence is a dense oblong spik up to 2 inches high. The blu flowers are almost enclose in the hairy green sepals an therefore they are not ver conspicuous. The root i long and slender but ends i a large, starchy tuber o cluster of tubers, generall from 6 to 10 inches belo the surface of the soil. A the squaws generally wer jo'ed for the digging it fortunate that this plant usually associated with th lighter or sandy soils. Th

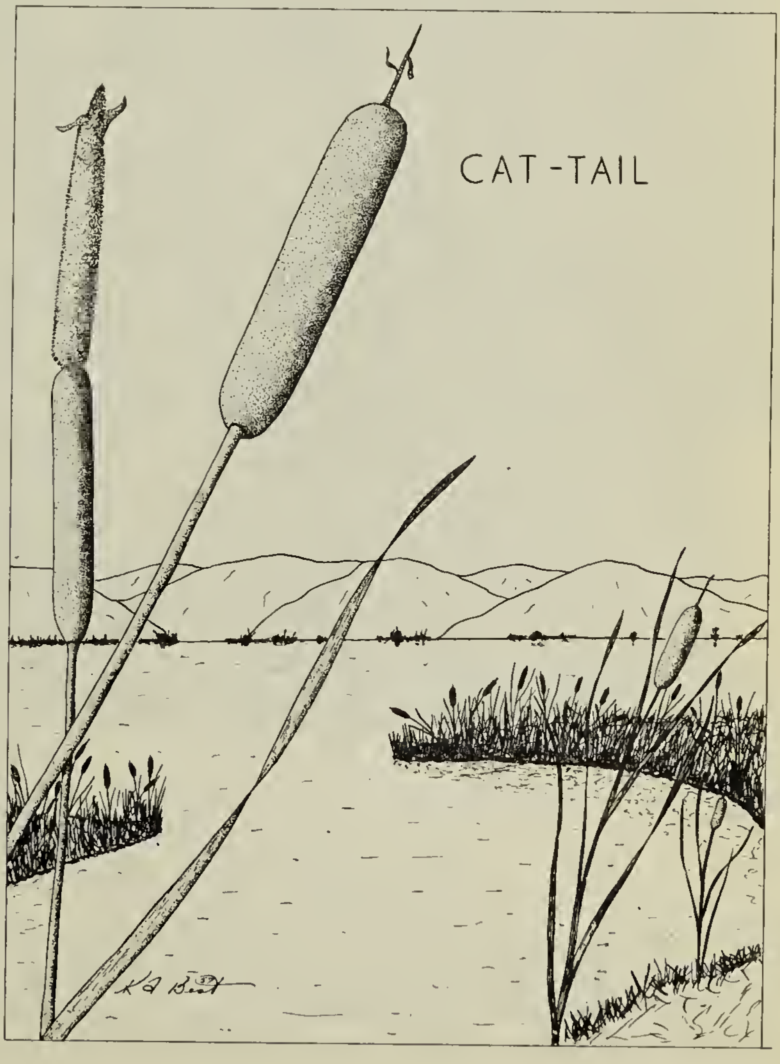
roots were eaten either raw or cooked and often dried and ground into flour.

One of the earliest spring flowers is the Musineon, (*Musineon divaricatum*), a very low growing member of the Umbelliferae or Parsley family, which bears umbels of tiny yellow flowers and grows on eroded sidehills and dry soils throughout the southern part of the province. Very similar plants are the Prairie Parsley or Biscuitroot of clay soils, (*Lomatium villosa* and *L. macrocarpum*), which differ from Musineon by being hairy on stems and leaves while Musineon is practically hairless. Plains Cymopterus, (*Cymopteris acaulis*), is another of the Umbellifers but differs from the previous two by having thinner leaflets and white flowers in somewhat larger umbels. The roots of all these three genera were dug up, roasted or baked, ground into flour and used for baking cakes. They were usually dug while the plant was in bloom.

Leaving the drier areas for the sloughs and water holes we find the Arrowheads, (*Sagittaria cuneata*), which bear palatable tubers and stem bases which, although somewhat bitter when raw, become quite pleasant tasting after boiling or roasting.

Nearby would probably be found the Cattails, (*Typha latifolia*), with their long, thick, creeping roots. The young roots and shoots and new stem bases were eaten by many of the Indians, raw according to some observers, but probably with less relish than the Bread-root and Biscuit-roots.

It is interesting to note that more than 25 species of plants with edible roots are still found in Saskatchewan.



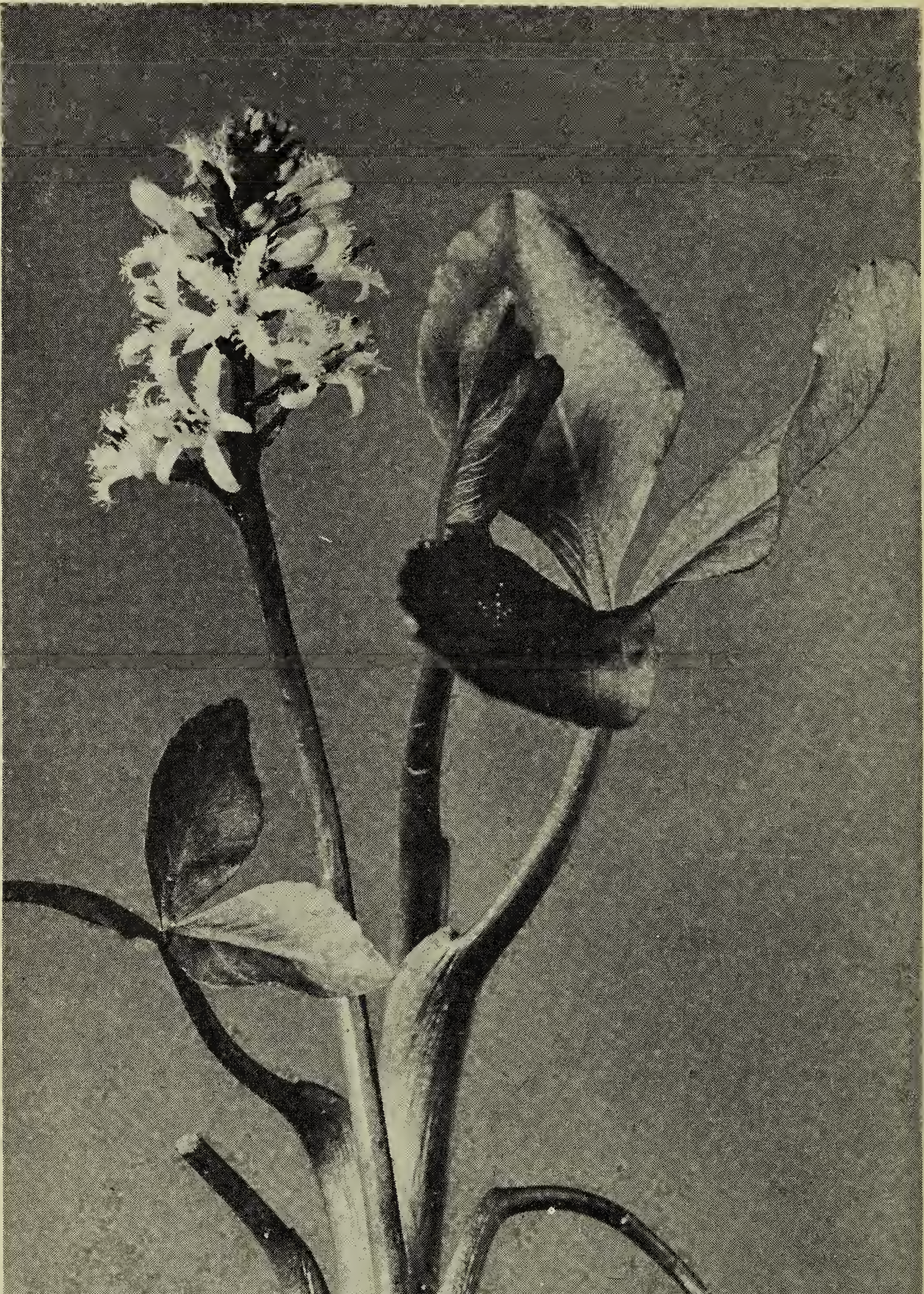


Photo by W. C. McCalla

BUCK-BEAN

Menyanthes trifoliata L. (⅔ natural size)

An attractive bog or marsh plant. The flower buds are flushed with purple, the lobes of the corolla, white and soon reflexed, are softly and prettily fringed. The Buck-bean should be coming into flower in the bogs around Emma Lake for our Summer Meeting, June 14 and 15, 1958.

Indian Pipe

By **A. J. Hruska**, Gerald, Saskatchewan

Almost overnight in the last week of July or early in August a little plant makes its appearance and quickly grows and flowers in moist shady woods. This plant, *Monotropa uniflora* L., is commonly called the Indian Pipe or Corpse Plant. It is never found in abundance in Saskatchewan but according to some botanists it is a plant of common occurrence in much of North America.

This plant is curious in several aspects and I like to think of it as a hidden beauty of nature. The plant is waxy and nearly pure white for it lacks chlorophyll. It grows about 4 to 8 inches in height. The stems grow singly or in clumps. There are no leaves but are small white bract-like scales attached alternately along the stem.

The drooping bell-shaped flower has several white sepals and five white petals. When the innumerable small seeds start forming the stem straightens up and the rounded capsule is borne erect at the top of the stem. After fertilization the plant begins to take on a rich brown color. If the white plant is picked or dried before it ripens it quickly turns black.

This unusual plant is sometimes referred to as being rather unpleasant and clammy to the touch. Its curious appearance is explained by the fact that it cannot make its own food as do the green plants. Plants that are not green are either saprophytes, getting their food from the dead organic material in the soil, or they are parasites, feeding directly on living plants or animals. Most saprophytes and parasites are bacteria or fungi, but in several different families of the flowering plants there are a few species which have lost the ability to make their own food. The Indian Pipe is a good example of such a non-green plant belonging to a group whose other members are immediately recognized as flowering plants—for example, the wintergreens and heaths (azalea, laurel, rhododendron).

Most botanists classify the Indian Pipe as a parasite and saprophyte. Latest studies, however, seem to abandon the former tag and class the plant as a symbiote. That is to say, there may be a fungus associated with the roots of this plant decomposing organic material for its use. My personal experience of the plant leads me to think that it is not a parasite.

Photo by J. A. Herrick
Reprinted by permission of Turtox Products, Chicago.

Orchids of the Cypress Hills

By **B. de Vries**, Fort Qu'Appelle, Saskatchewan

There are 14 species and 2 varieties of the Orchid Family listed for the Cypress Hills area. While I was there last June, I was fortunate enough to find 7 different orchids. The outstanding orchid was the rare *Calypso bulbosa* (L.) Oakes, commonly called Venus' Slipper. This exceedingly delicate plant, 5 to 6 inches high grows in pine woods. Each spring it sprouts from a nearly globose corm, hence the name "bulbosa." The word Calypso is derived from the Greek Goddess Calypso, who was the Goddess of Eternal Life and Beauty. The plant bears a single leaf which has a rounded-ovate blade, acute at the apex and rounded at the base. The flower is pink; the petals and sepals are similar and each bears three purple lines. The lip is large and has a tuft of yellow hairs.

In the area I found two species belonging to the coral-root genus. This group of orchids contains saprophytes. They do not possess chlorophyll but feed entirely on dead and decaying organic matter. The plants are leafless and have a scaly, colored stem arising from thick coralloid roots. The flowers are in terminal spikes with nearly equal sepals, the lateral ones united with the foot of the column, forming a short spur. In this genus, *Corallorhiza,* I found two species, the large coral-root and the striped coral-root, and what I believe to be an additional variety—the yellow form of the striped coral-root.

Corallorhiza maculata Raf., the large coral-root, grows quite tall, measuring up to 20 inches in height. The stem is purple and covered with scales. The 10 to 30 flowers are racemous, brownish-purple with a white lip, the latter spotted and lined with red-purple markings.

Corallorhiza striata Lindl., the striped coral-root, is also a tall growing species with a stout stem. The flowers, also racemous and numbering up to 25, are purple with dark veins. These wax-like plants were found in scattered locations in aspen woods throughout the area. The yellow form of *Corallorhiza striata* (*C. ochroleuca* Rydb.) was found only once in a moist, shady part of an aspen grove. This species has been collected at Elkwater Lake, Alberta, by R. G. H. Cormack. The flowers are light yellow and unspotted and have a prominent mid-vein on the sepals and petals.

From the genus *Habenaria,* I found *H. obtusata* (Pursh) Richardson. This small northern bog orchid was found in a boggy spot in a spruce forest. It is a slender plant, about 10 inches in height with no stem leaves. There is one solitary obovate leaf at the base of the plant. The loosely flowered spike bears small greenish flowers with slightly curved spurs.

The other species in the genus *Habenaria* that I found was *H. bracteata* (Willd.) R. Br., the long-bracted orchid. As the name indicates the lower bracts are longer than the greenish flowers. These bracts are very conspicuous. The lip is three-toothed at the apex, the middle tooth being the smallest. It grows in moist meadows and open woods. I found this one in such a meadow near the lower lake at the park.

Finally there was the delicate round-leaved orchid, *Orchis rotundifolia* Pursh. This plant is about 10 inches high. It carries about six rose colored flowers in its terminal spike. The lip is white with small purple spots. This prominent petal is three-lobed with the large middle lobe notched at the apex. The spur is slender and curved. Near the base of the plant is a solitary leaf, orbicular or oval in form. It grows in cold, damp woods and I found it in a deep spruce coulee which was quite moist in places because of numerous small springs.

What Is Tuckahoe?

By **Joyce Dew,** Saskatchewan Museum of Natural History

"Tuckahoe" is of special interest to the biologist, ethnologist, and to the farmer who turns it out of the soil while doing fresh breaking. Through usage the term has come to be applied to a variety of underground growths. One of these, *Polyporous tuberaster,* described by T. C. Vanterpool in Vol. X, No. 1 (1952) of the *Blue Jay* is the sclerotium or resting stage of a fungus. This sclerotium is described as being spherical to oval and occasionally slightly flattened, of a hard rubbery consistency when fresh, but of stone-like hardness when dried. The specimens examined by Vanterpool were found in the Aspen Grove or Parkland belt of the province, or from a belt parallel to and northeast of a rough line running from Moosomin in the southeast, through Touchwood and Radisson to Senlac in the northwest of the province. Fruiting bodies appear on these sclerotia from the end of June to the end of July. If a fresh specimen is taken and planted several inches below the soil it may produce a mushroom-like fruiting body. This fruiting body, as the genus name *Polyporous* suggests, has pores rather than gills on the underside.

In the *Canadian Journal of Botany,* 29; 147-157. 1951, T. C. Vanterpool and Ruth Macrae give details of culture tests which established that the fungus was the same species as the one long known from Italy.

The name tuckahoe also applies to a fungus growth in southeastern United States where it is called southern tuckahoe or Indian bread. The southern tuckahoe is quite different from the fungus of Western Canada but the name "Indian Bread" has been applied to both of them. Vanterpool states that there is no record of the sclerotium of *Polyporous tuberaster* having been eaten, being much too tough, but the Indians may have used it for poulticing and for rheumatism.

The Saskatchewan Museum of Natural History has received samples of tuckahoe from the following areas: Dysart, Neudorf, Bulyea, Wolseley, Summerberry, Round Lake, Regina, Whitewood, Abernethy and Carrot River and 40 miles north of Meadow Lake. The exterior surfaces of some of these specimens are much more irregular than those reported by Vanterpool.

Tuckahoe is a name which has been applied as well to certain edible rootstocks of flowering plants. The word apparently originated in eastern Canada referring to underground roots. Early explorers listed it among the foods eaten by the Indians. The confusion which exists here is summed up by John R. Swanton in the Smithsonian Institution's Bulletin 137, *"The Indians of the Southeastern United States,"* when he states: "Generally speaking, the identity of the roots used as a food is in greater doubt than any other vegetable or animal product mentioned by early writers." He is of the opinion that a food called Coscushaw by the Spaniards and used by the Indians to make bread ". . . is called in Virginia tuckahoe, and in the present instance the name probably refers to the golden club or floating arum (*Orontium aquaticum*) though the name was also applied to the roots of the Virginia wakerobin (*Peltandra virginica*) or "poison arum," to the *Apios tuberosa* and to tuberlike objects due to the disintegration of the roots of trees (mainly conifers). Farther south on the coast of the Carolinas, it was known as "wampee . . ." The juice of the plant referred to as Virginia tuckahoe was poison and had to be extracted from the root before the bread was made. The roots were either sliced and dried in the sun or by the fire, and then were pounded into flour which made good bread. Green roots as well were pounded, then left by the fire to dry. The bread made from it was reported to taste very good.

It would appear that the word "tuckahoe" was first applied to certain underground growths listed among foods used by the Indians. In present day usage it is frequently applied to any dark brown, more or less spherical, hard, vegetable material found underground. This object when first unearthed is sometimes mistaken for pemmican. The hard, dry, wrinkled, leathery appearance of the outside and the composite appearance of the cross-section have led to the assumption that it could be dried buffalo meat in a leather storage bag. Pemmican, however, would soon disintegrate due to bacterial action if it were left for long in the moist ground. In conclusion, I find it much easier to say that what "tuckahoe" *isn't* than to define what tuckohoe *is.*

Several specimens of "tuckahoe" are at present on display at the Saskatchewan Museum of Natural History.

Boys' and Girls' Section

CHICKADEE by Billy Horseman, age 15, of Saltcoats, Sask.

Comments and Prize Winners

There was a scarcity of new material for this issue; however, by looking through the files we found some good observations which were crowded out of earlier Blue Jays. Some of these stories had to be edited, mostly by cutting out sentences which had nothing to do with the animal being described. For example, if you are talking about a skunk you saw while bringing in the cows it is not necessary to add that you milked the cows when you got them home and "bossy" kicked the pail over. Milking cows really has nothing to do with describing the actions of a skunk.

Kathleen Gunnarsson tells about a skunk eating bees, something which is certainly of interest. It would have added to her story had she told how the skunk caught the bees and what it did to them before eating them. Details like that are always of interest, especially if you are describing something not often seen. Scientists spend hours watching an animal in order to describe in detail and accurately everything it does. Such observations are called "behavior studies" and are important in helping us to a better understanding of living things, including ourselves.

Billy Horseman sent in a drawin cf a chickadee seen at his feedin station. Those of you who have feeding stations for birds or mammal could tell how you made them, wher you put them, and what animals the attract. Just recently we heard o someone who had a feeding statio for snakes. She put bread and mil out for them and they are reporte to have enjoyed it very much.

We have a coyote story in thi issue. This mammal is often cleve enough to outwit both man and dogs Observations about how it does thi are of interest. Some of you migh have an opportunity to observ coyote behavior and report it to us

If you have sent in letters an they were not printed the suggestion made in this column should be helpful. The main thing is to have something worth writing about and t keep trying. Sometimes a little practice is all that is needed, and sometimes good material gets crowde out of the issue.

The prizes are awarded to Robbi and Bette Cannings for their observations of a Hawk Owl and to Beverly Esplen for her report on fo behavior.

Contest Rules

Any young person may submit material for printing in this section of the **Blue Jay.** The entries may be first-hand observations in the form of letters, stories, poems, black-and-white sketches or photographs. Letters and stories should not exceed 500 words. All entries must be accompanied by the name, age, and address of the sender, and the name of his or her school.

Two or more book prizes will be awarded with each issue of the **Blue Jay.** Teachers who send in entries from their pupils may also qualify for a prize. Send in your nature observations and perhaps you will win a prize. Entries should be addressed to Boys' and Girls' Section, **Blue Jay,** 2335 Athol Street, Regina. The closing date for the next issue is April 15, 1958.

My Experience With a Mother Fox and Her Three Cubs

by **Beverly Esplen,** 12, Pense, Sask.

One day when I was playing hide and seek I hid behind a clump of bushes out in the field. I saw a mother fox and her three cubs playing around the entrance to their den. Then, while I was watching, one of the cubs decided to do a bit of exploring. He started to trot off across the field. I thought he was too small a fox to go out into the world alone so I watched to see what the mother would do. She might run after him and head him back, she didn't. She just got to her feet and "pointed" with her sharp muzzle in the direction in which the cub was going and stood very still and silent. She didn't make a sound, at least none that I could hear. Then by some strange means of communication the little cub began to waver in his steps and he slowed down, then stopped. All of a sudden he turned quickly around and looked straight at his mother. But his mother didn't move, howl or do anything, she just stood there and gazed at him, as if she was a statue or had something on her mind. It seemed as if the mother were holding on to a piece of invisible string which was tied to her cub. He started to run home. Was he glad to see his mother!

Skunk Eating Bees

by **Kathleen Gunnarsson,** 10,
Bredenbury, Sask.

A few weeks ago, a friend of my father sent us a copy of the "**Blue Jay.**" As my sister and I were looking through it we came to the Boys' and Girls' Section. So we thought we would send you the story of the skunk that came to visit our beehives last fall.

One evening, just before dusk, a skunk came and started scratching at the entrance of a beehive. This must have annoyed the bees because they came streaming out of the hive; as they came out, he would gobble them up. We wondered how he could eat them without being stung. We didn't want him to eat all of our bees, so my sister hurried out to the barn, where my father was working, and told him to come to the house.

My father saw the skunk right away so he got his rifle and shot him.

We were sorry to see him die but we didn't want him to eat all of our bees. Then the perfume came. We didn't go near that place for quite awhile.

A Smart Coyote

David Farrell, age 13, of Saltcoats, tells us of a raid a coyote made on his neighbor's hen house, and his attempt to catch the animal.

"Knowing that the coyote would try to run to the nearest bush, I rode along the top of the bank so I could cut him off. Ahead of me was a shrub pile and there were chicken feathers around it. When I got within fifty yards of it, up jumped the coyote. He did just what I expected, he ran up the bank and started for the bush, the hounds after him. The dogs overtook him before he went fifty yards. The coyote, seeing no other way out, turned back towards the lake. The hounds not expecting this lost some ground. The coyote, his tail straight out behind him, dashed over the bank and into the water. The hounds plunged in after him and tried hard to swim close enough to grab him but they were no match for the fleeing coyote. When the coyote reached the other side he raced across a field and into a bush. The hounds gave up the chase.

HAWK OWL, by Robbie Cannings, age 9, West Bench, Penticton, B.C.

A Rare Visitor

Bette Cannings, 11, Box 31, West Bench, Penticton, B.C.

During the Christmas Holidays last year we visited the Experimental Farm in Summerland. We were having our annual family bird count, so we decided to drive around the orchards where there was one or two inches of snow. There we saw a Hawk Owl sitting on the top branch of an apple tree.

We could tell it was a Hawk Owl by its long tail and the black markings on each side of its face. As the sun shone brightly on it we could see the brown bar markings on its breast and the white "bib" around its throat. It was quite tame so we could get within fifteen feet of the tree in which it was perched. The bird almost scared us the way it stared, and blinked its big round eyes. When it flew away we noticed it flew more like a hawk than an owl.

The men working in the orchard said they saw the owl diving to the ground once in a while for a mouse he had spotted, but it always flew up again to one of the highest branches of a tree.

My father saw it several times during the late winter and ear spring. It was last seen on the fif of April at the top of a large waln tree. This must have been its favou ite perch for it was seen there sever times. Perhaps "our" Hawk O stayed at the Experimental Farm b cause it knew "the farm" was Game Reserve.

Our Winter Visitor

by **Evelyn Lohr,** 9, Erskine, Alta.

On December 7 my daddy was su prised to see a Mallard Duck whe the milk cows eat green feed. H gave her some wheat and made h a puddle for water. Each night sh flies away and comes back in th morning. She is so tame that mumm and we children can come with three feet of her. My granny to some movies of her.

One day when it thawed she ha a great time dabbling in the puddle If she gets lonesome she waddl over to see the Bantams. We ho she stays all winter so she can rai some baby ducks next summer. like to read the stories in the **Bl Jay** so I thought that other childr might like to hear about our wint visitor.

A Wild Goose

Marvin Morvik, 12, Dollard, Sask.

One spring day when I was down at the slough where our four tame geese usually swim, I saw only two geese. On the way home I saw three geese walking towards our buildings. I knew that there were two geese at the slough, so I thought the other one was a duck. I drove closer to them and noticed that it was a wild goose. I drove past him and he just walked faster.

When I told everyone about the goose we sat in the window and watched as the geese came home. The tame geese just waddled past, but the wild goose walked gracefully beside the others.

We watched him and he went into the grain pile and started eating the grain. Just as he was eating, Dad came and picked up a pitch fork and walked to the barn. The wild goose got scared and flew down to the other geese at the slough.

The wild goose's body is a brown and white colour. Its neck and head are all black except for a white line by his eyes and he has a little white under his tail. He is about half the size of the tame geese. That is the closest I've ever been to a wild goose.

Chickadee Observations

Linden Hubbard, 11, Grenfell, Sask.

Craig, my brother, made a bird-feeding station which was set on a pole covered with tin.

Two chickadees come to eat when it is light enough to turn the kitchen light off in the morning. One chickadee eats while the other sits on a sunflower plant and eats the seeds. Then the one flies away and the other goes into the feeding station. One chickadee is a bit scared and sits on the edge of the bird-feeding station and keeps on the lookout while it eats. We think they are the same two who nested in our crab-apple tree in the orchard. Then, one would sit in a tree near by while the other got food. They had one baby.

Our dog sleeps on the straw beneath the bird-feeding station, but the chickadees are not scared because she doesn't bark at them or chase them.

Albino Sparrow

Jim Breadner, 15, Armley, Sask.

One day last summer, about the first of August, I was surprised to see a white bird flying across the yard with a group of sparrows. Later I found a mother sparrow feeding it weed seeds.

This bird was all white except for its beady little red eyes. It also had the same voice and habits as an ordinary sparrow. All this added up to only one thing, an albino sparrow a very rare and freak happening.

NOTE: A recently opened display at the Saskatchewan Museum of Natural History features abnormal coloring in animals. Among the albinos is a pure white Gray Partridge (Hungarian Partridge) with pink legs and bill, and reddish eyes. The crow displayed is a partial albino, mostly black with white feathers on its breast. Two partially albino sparrows are shown; one of them is brown flecked with white, the other a light greyish white with black eyes. The sparrow described by Jim appears to be a complete albino, the red eyes being explained by color due to blood vessels rather than pigment coloring in the iris. The other extreme in coloring is an animal which is much darker than normal. This condition is known as melanism. Several melanistic Ground Squirrels are on display. They are dark grey to black in color.

A Wild Animal Story

Edwin Kuchn, 12, Clouston, Sask.

One morning when the sun was coming up I went for the cows, and I thought I saw the cows but no—it was a pack of coyotes. They were surrounding another animal so I sent my dog after them and climbed up a tree. Then the results came when my dog chased the coyotes over the field.

Just then I saw something move where the coyotes were. Then I saw a mother porcupine and six little ones. Then the dog started after the mother porcupine. She gave a signal and all of them rolled into little balls of sharp quills. Then the dog and I went for the cows, and left the porcupines alone.

The next night I took the little porcupines down some crusts of bread which they enjoyed very much. I did that every day for a week.

One day I fed them and they started to follow me home. When I got home the small porcupines started for the neighbor's place and the dog took after them. But the dog was so full of quills that he died.

Mammal Notes

Coyote Tolling a Calf

By **Robert W. Nero,** Saskatchewan Museum of Natural History

Sketch by F. W. Lahrman

Students of animal behavior are not always able to observe a species long enough to see all of its behavior, particularly where large mammals are concerned. Chance observations by farmers, ranchers and others closely associated with wildlife species are thus valuable and sometimes unique, but are seldom recorded. When observations can be permanently recorded and made available to others they assume a greater value. The following observations of a Coyote (*Canis latrans*) attempting to catch a calf by luring it away from a herd were made by Mr. A. E. Swanston (Museum Assistant—S.M.N.H.) and Mr. T. Walker (former Museum Assistant) on June 29, 1952. This unique situation was related to me by Mr. Swanston who referred to notes in his field diary made at the time. It has been confirmed by Mr. Walker.

Both persons were on a museum field camp at Stewart's Ranch, 14 miles northwest of Eastend, Saskatchewan. In the evening, between 7:30 and 8:00 p.m. and shortly before darkness fell, they had gone out to check a hawk's nest and were ambling along the bottom of a valley when they noticed a Coyote on a high bench. Almost at once they realized that the Coyote was behaving in an unusual manner: it turned around in circles, rolled over like a dog and then stood up and looked down on a herd of beef cattle which were grazing below. All this time the Coyote was in full sight of the herd. Sometimes the Coyote walked around slowly but it remained in one small area all the while it was "stunting." Meanwhile, the two observers, evidently unnoticed by the Coyote, became aware that a small calf had come out from the herd and was advancing toward the Coyote at about 150 yards distance. The calf was then some 50 to 75 yards from the herd and kept advancing slowly while looking up at the Coyote. The latter kept up his "playful" behavior for perhaps 15 minutes until the calf was 50 to 75 yards away. Then the Coyote suddenly and without any warning dashed down the slope of the bench toward the calf. The calf turned and fled bellowing toward the herd as soon as the Coyote started his run. The cattle all began to run toward the calf and in a few minutes the calf was safe. The Coyote had come within possibly 30 feet of the calf and both observers agreed that if the herd had not run toward the calf the latter might have been caught by the Coyote. When the calf was close to the herd the Coyote had veered off and slowly run along the outer edge of the herd not evidently frightened; it finally disappeared on the other side of the coulee.

The hunting behavior of the Coyote (and other *Canidae*) has long attracted attention. Every schoolboy for example, has heard of Coyotes hunting in pairs, one animal driving the game toward another Coyote lying in wait. The deliberate attempt to hold attention of prey or to lure it within range as described above is especially interesting in view of its indirectness. Coyotes have several times been recorded working in pairs, one attracting the attention of the prey by performing antics like those reported above, while another sneaks up unnoticed. J. F. Dobie (1949. *The Voice of the Coyote*) cites good examples of this: ". . . noticed a coyote silently jumping up and around. Then he saw a second coyote off some distance slinking slowly and carefully forward. Between the two a sitting jack rabbit appeared to be fascinated by the didos of the first coyote and to be unaware of the approach of the other . . ." In another case he recounts how coyotes caught some pelicans, one coyote attracting their attention by ". . . catching up bits of wood and throwing them into the air, chasing her tail, crouching and making sudden springs into the air." Even a Sandhill Crane was caught in this way by another couple of coyotes, one of which was turning somersaults and running round and round. This behavior of a wild species has close similarity to an old method of luring ducks called "tolling" and much favoured in Europe. The same method is being used at present with great success at the Delta Waterfowl Research Station (Delta, Manitoba). A well-trained dog is directed by his concealed trainer to go through a complicated series of maneuvers, performing play-like movements in full sight of a flock of wild ducks. The latter are strangely attracted by the antics of the dog and are thereby lured into a trap. Thousands of ducks have been trapped and banded at Delta by this means.

Gray Squirrel (Sciurus carolinensis) **in Sask.**

By **Robert W. Nero**, Saskatchewan Museum of Natural History

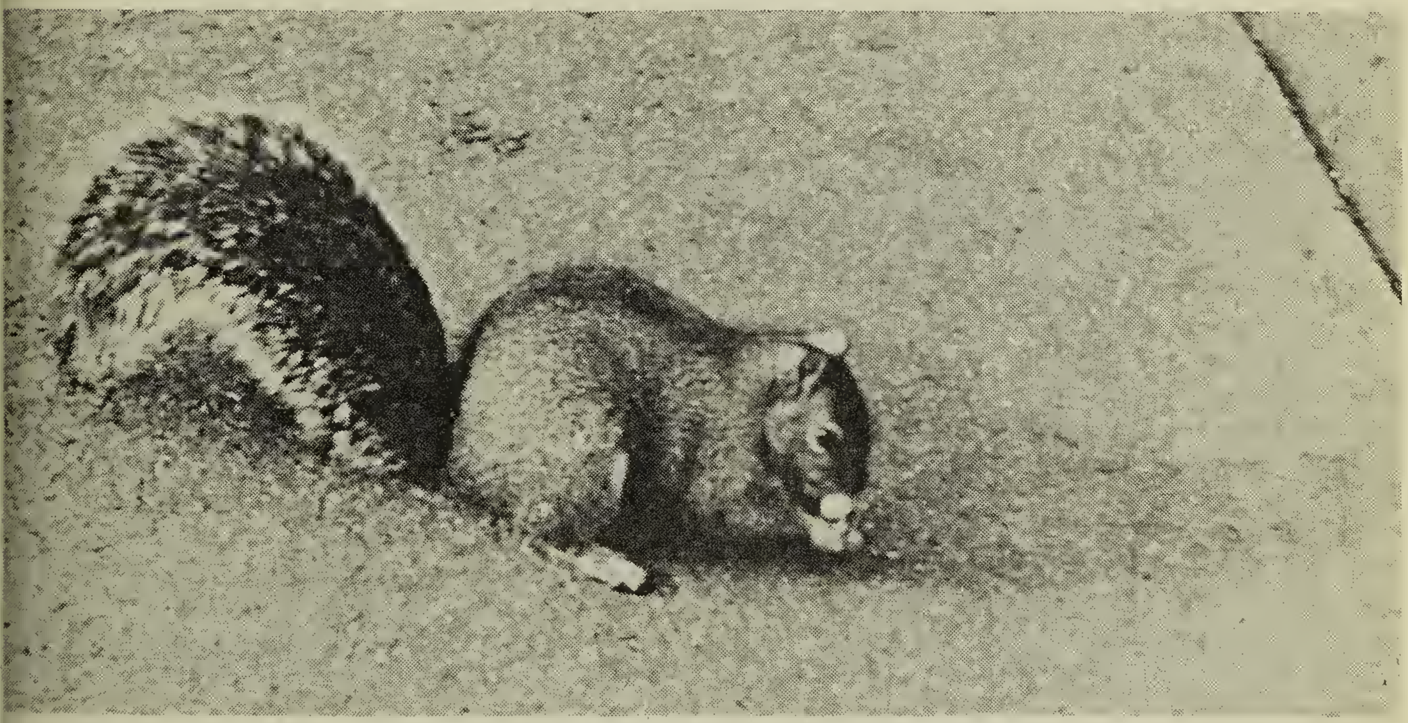


Photo from a kodachrome by John Bergsteinsson

Gray Squirrel feeding on a Saskatoon sidewalk.

The occurrence of the Gray Squirrel (*Sciurus carolinensis*) some 70 miles north of Regina is unexpected considering its known range and habits, and it seeems likely that it has been introduced into this area.* It is known to occur normally in southeastern Manitoba west to Ninette according to R. W. Sutton (pers. commun.) but it is rare and only locally distributed in this area. In the United States it is found as far west as eastern North Dakota. There are also isolated occurrences in north-central North Dakota along the bottom of the loop of the Souris River (Mouse River in the U.S.) which probably represent introductions (Hibbard, 1956). The following data are worth recording because of the possibility of establishment of the species where now known and their possible appearance in future years in extreme southeastern Saskatchewan along the Souris River. Since the species is limited in its distribution to areas with oak trees (*Quercus* sp.) which occur there only sparingly, it is not likely ever to become common in this province.

On August 31, 1957 Mr. Edgar Bookhammer turned over to A. E. Swanston, museum assistant, a live male Gray Squirrel captured on the same day at the Bookhammer farm home near Strasbourg, Sask., about one-half mile from Last Mountain Lake. The squirrel had suddenly appeared in the yard and was trapped with the aid of a dog. The species had never before been seen by the Bookhammers and they were anxious to obtain an identification. The animal was later sacrificed and prepared as a study specimen for the scientific collections of the Museum. On September 20, 1957 Mr. Bookhammer phoned the museum, reporting the capture and later release of another Gray Squirrel in his yard. He added that a close neighbor, Mr. H. E. Barber, had news of several Gray Squirrels. Accordingly, Fred Lahrman, museum assistant, visited the Barber residence on September 24 and obtained some further information. Gray Squirrels were first observed by Mr. Barber in the fall of 1956 when two appeared in his shelter-belt grove of trees. During the summer of 1957 as many as nine squirrels, two of which drowned in a rain barrel, were observed by the Barber family. According to Mr. Barber, although these squirrels regularly came near the house to feed on grain which was deliberately set out for them, they were never really tamed and were usually difficult to locate in the trees. The squirrels also obtained grain from feeding trays erected for them at a nearby Bible Camp. It was assumed by Mr. Barber that this grain was their main food. Four squirrel nests were observed by Lahrman; all were bulky, leafy-twig nests about the size of a crow's nest and were situated high in the topmost branches of willow and poplar trees. As is usually the case in Gray Squirrel nests, the leafy twigs comprising the nests had been cut while green; the leaves would thus remain permanently attached to the twigs and the nest.

The shelterbelt on the Barber farm is fairly extensive and densely wooded. It contains some very tall Russian poplars, willows, maples, ash, elms and caragana. Undoubtedly the squirrels obtained food from the fruits of some of these trees. The general area on the east side of Last Mountain Lake where these squirrels were found is rather open country; the farm shelterbelts in this vicinity offer the maximum amount of cover and habitat for Gray Squirrels, although completely lacking any mast or nut trees. The Bookhammer home which is about a mile from Barbers' is treeless. It would seem that the two squirrels which appeared there had been forced to leave the Barber woods—possibly as a result of social pressure because Gray Squirrels, like most mammals, require a certain extent of home range or territory. On the other hand, since the first squirrel captured by Mr. Bookhammer was an adult male, the squirrels may simply have been making exploratory excursions. This species of tree squirrel has been known to make extensive movements across country, even swimming across rivers, usually as the outcome of an increase in population or a decrease in the food supply. During Lahrman's visit no squirrels were observed although considerable effort was made to locate them. Mr Barber stated at that time that none had been seen during the previous two weeks.

Evidently the increase in popula tion observed by Mr. Barber indicates actual breeding, probably two o more litters having been produced The number of nests as well as a known den in a woodpecker cavity in a tree support this conclusion There is, however, the possibility that several squirrels were intro duced. It seems likely that at least one pair of Gray Squirrels was re leased near the Barber residence in 1956 or earlier, possibly at the Bibl Camp which attracts a great many visitors each summer. Owing to th limited wooded area in this vicinity it is unlikely that the Gray Squirre will become permanently established as a result of this presumed intro duction. They have been successfully introduced into British Columbia

(Anderson, 1946:122) and the British sles; in the latter case introduction has been regretted since the Gray Squirrel has since become a major pest, even evidently causing the disappearance in many areas of the native species of squirrel. There are many examples of catastrophes reulting from the uncontrolled introduction of plants and animals into new environments, but there are also other reasons for opposing this pracice. "In recent years the faulty easoning behind the introduction of animals has become increasingly apparent. Biologists now are generally opposing the liberation of exotics nto the wild, because of the unpredictable nature and possibly unfavorable economic consequences of uch action, and because of an aeshetic objection to mixing diverse aunas." (De Vos, Manville, Van Gelder, 1956:163)

* Franklin's Ground Squirrel (*Citellus franklinii*), a common species in Saskatchewan, is frequently locally known as the "Gray Squirrel." It is gray and does have a slightly bushy tail but can hardly be confused with the Gray Squirrel (*Sciurus carolinensis*) of eastern North America. The latter is considerably larger, inhabits forests and is a tree squirrel.

EDITOR'S NOTE: Since the above article was received, the Museum has had a report from Harvey Beck of Gray Squirrels at Saskatoon. Harvey Beck knows of at least three squirrels there, two gray and one black in colour (a colour phase of the Gray Squirrel). One of the grays is considerably smaller than the others. The larger gray was first noticed in the fall of 1955 and the others appeared during the summer of 1956. The Poplar Crescent area where they live is well treed. Elm predominates, with maple and caragana also present. Last summer the black squirrel made a nest in a maple tree, using branches with green leaves. Apparently no young were raised. The squirrels have remained fairly active this winter (1957-58), appearing two or three times a week. Last winter they were seen only once or twice during the whole winter. During the summer they "free-load" around the neighbourhood and several families put out nuts for them.

Who's Who In Gophers?

By **R. W. Fyfe**, Saskatchewan Museum of Natural History

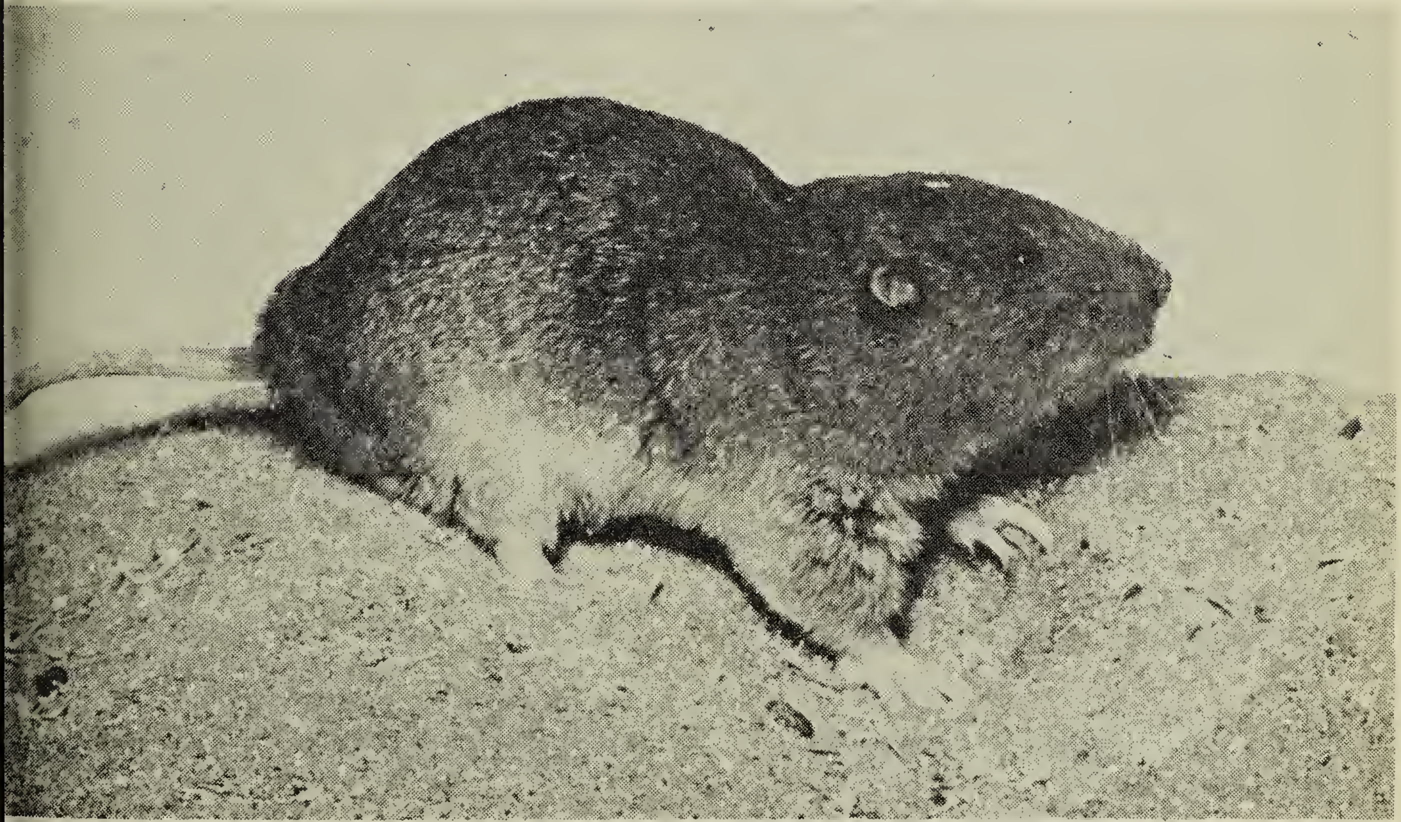


Photo by R. W. Fyfe

Pocket Gopher. Note claws, small eyes and ears.

The Pocket Gopher, found hroughout southern and central askatchewan, ranges in North merica from the central prairies outh to Panama. The name Gopher omes from the French "gaufre", neaning honeycomb, which suits this animal whose underground home honeycombs the soil. Anyone having one of these animals in his garden will mostly certainly attest to this. Because of its subterranean life the Pocket Gopher often receives the misnomer of "mole". (It is worthy of note that true moles have yet to be reported in our province.) They are truly mole-like in habit, seldom coming above the surface of the ground during the day and only rarely venturing forth at night in search of food. It is on these midnight excursions that the larger owls find them; in some parts of the country these animals provide one of the main sources of food for the Great Horned and Barn Owls. The Pocket Gopher is best described as being about the size of a rat, heavily built and with a short tail seeming out of proportion to the size of the animal. Its most distinctive features are large "pockets" or external cheek pouches for carrying food. Its small eyes and ears are suited to an underground existence and the enormously developed forefeet and claws admirably equip him for digging. In Saskatchewan the Pocket Gopher varies in color in different localities, ranging from pale tan in the south central and western areas to dark brown ar nearly black in the east centr sections.

What is commonly called "gophe in the western provinces diffe markedly from the Pocket Gopher can be readily seen in the accor panying photo. The so-call "gopher", referred to as the Flicke tail by Seton, is actually a variety squirrel which is correctly called t Richardson's Ground Squirrel. Tv other ground squirrels—Franklir and the Thirteen-lined—are also fr quently called "gophers". Althou ground dwellers, they do not bui burrows approaching the complexi of the Pocket Gopher's and therefo perhaps do not technically deser the common name we have giv them. Whether they are call ground squirrels or "gophers" th and the Pocket Gophers are econon cally important and interesti rodents.

Unusual Animals of the Beechy Distric

By **Dave Santy**, Beechy, Sask.

For the past couple of years reports have come to us of raccoon in the Beechy district. The first report came from John Houben who saw an animal he did not recognize when he was returning to his farm home. He gave chase over the stubble field and ran over it with his light truck. It proved to be a raccoon.

Reports were also rife of red fox having been seen, but we were inclined to doubt these reports. However, one such report followed up last spring produced a den of five pups. These were kept in captivity for a few weeks before they escaped.

Muskrats have always been with us, though during the dry thirties they decreased in numbers. Now they are back again as strong as ever. About three years ago trappers complained that some animal was taking a heavy toll of them. Remains of rats were found around the houses on many sloughs. Experienced trappers suggested mink, an unusual predator in this district. During this season (up to the present date) trappers A. Stockman and R. Swann have captured over 50 mink and others in "Operation Muskrat" have taken lesser numbers.

In earlier days beaver were fair plentiful along the South Saskatch wan River in this section, but unusual ice break-up in the spring 1947 dammed the river waters to su merge completely the many islan When the ice jam broke, the tre beaver houses and animal life of t islands were swept away and crush in the heavy pressure of ice flo Numerous beaver that surviv moved to higher ground and for time occupied small sloughs and du outs in the settlement. They ha now pretty well disappeared fro there.

Badgers are not as plentiful as earlier days but skunks seem to at the peak of their cycle. Time w when prairie gophers were so plen ful that as a control measure our lo rural municipality paid a bounty three cents a tail on them. Now th are gone and their place is bei taken by numbers of the strip variety previously considered u usual in this district. Jack rabb still provide food for eagles a coyotes.

Coyotes have always been co sidered our greatest predator pe but they are now well controlled he use of 1080 poison.

Along its course from the Rockies o Hudson Bay, the Saskatchewan iver probably cuts through no igher land than here in the Coteau ills at an altitude of over 2,500 feet. ere the distance from top land level o river high water mark may be ver 500 feet. For a stretch of almost 0 miles, therefore, the river banks resent about three miles of rough errain which is the haunt of deer nd other forms of wildlife. Bob cats ave always been with us in these iver breaks, but they are infrequenty seen. Since bob cats are known or their wariness, it was a surprise o deer hunters Abe Penner and rank Odermatt to come across one his fall fast asleep and to view it or a time in that state before disatching it with a rifle shot. The cat eighed 20 lbs. Two weeks later ancher Pete Perrin saw another cat hen he crossed on the river ice near he Herbert ferry.

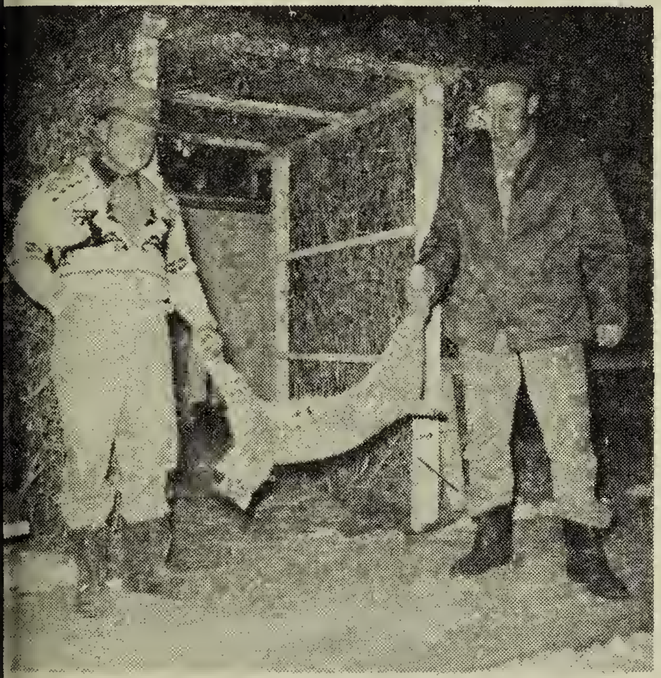


Photo by D. Santy

Bob cat taking a cat nap.

Looking back over the past 45 ears we are reminded that the odd brush wolf was trapped here, and down through the years the occasional pair has been seen in the district.

Those who have read Palliser's report may remember that when his expedition forded the river at the Elbow several bear were seen and one shot to replenish their meat supply. Last summer it was said that signs of a bear were seen around Bounty or Anerley but no confirmation of the actual presence of such an animal has come to us.

Further Records of Raccoons in Saskatchewan

In addition to the report of raccoons at Beechy in the foregoing article, there have been four reports of raccoons submitted to the editor since the printing of our last **Blue Jay**.

Lad Martinovsky of Gerald found one killed on the highway about one mile west of town in the Cut Arm valley in September, 1957. This is apparently the first one killed in his district. J. Stewart Houston of Tyvan also tells of a raccoon being taken this fall by a trapper near Redvers. His sister, Mrs. Marion Nixon, has heard reports of raccoons near Wauchope.

K. E. Baines of Tisdale writes that a large male raccoon appeared two years ago on the Frank Pearse farm at Leacross. This raccoon was raiding the hen house so it was trapped and transferred to a cage. When spring came it was released and it wasn't seen again.

John Hunter, taxidermist, Saskatoon writes that he has a raccoon in his wildlife exhibit, which was taken near Pleasantdale on January 18, 1954. This raccoon had been in a fight with a dog and had had to be destroyed.

The Thrills and Disappointments of the 1957 Big Game Hunt

By **E. M. Morgan, Viewfield, Sask.**

I own a summer resort on Candle ake 65 miles northeast of Prince lbert and I am naturally interested n big game hunting. On the mornng when the early moose season opened last fall, Joe and Frank Hayes and myself took Joe's jeep and drove some 40 miles north east of Candle Lake into the heart of the moose pastures. We spent the night in a trapper's cabin Joe had at Leonard Lake and rose early the next morning, to look out on a real old-fashioned snow storm raging over the lake. Soon, however, the sun was shining and by noon all the snow was gone. We drove to Skunk Lake where we had seen signs of moose the day before and left the jeep there to scout the area on foot. Some three or four hours later Frank and I arrived back at Skunk Lake without having seen any sign of either moose or our partner Joe. While we were trying to decide what to do about Joe we heard a shot up the lake, and Frank remarked: "Well, I guess that was Joe. He must have got his moose. I'll run up on that hill and maybe if there is more than one animal, one of us might get a shot at it."

Frank had only run about three hundred yards when I saw a three-year-old bull moose coming toward me, picking his way through the timber burn. I stood very still and waited till he was about 50 yards from me and tried for a brain shot, but just as I pulled the trigger of my 30/06 the moose stopped to look around and my shot took him just below the eye. I at once put another shot through his lungs and that was when he spotted me. Then I got the biggest thrill of my life because I had a mad wounded moose to contend with and no trees near to climb. The moose was making for me and the only thing I could do was wait and take my chance on a brain shot. This I did when the moose was within 20 feet of me. My luck held, for when I fired he dropped right then—stone dead.

We three dressed out the moose, quartered it and loaded it into the jeep for the long trek home over rough roads, mud holes and sand pits. According to the hunting law, my having shot a moose put me out of the hunting until the late moose, deer and elk season, and the worst of it was that I could no longer carry a rifle even to hunt bears! This was quite a disapointment for while I was driving through the various trails in the bush with a friend of mine from Regina showing him the country, we came upon a large black bear and two cubs right on the road and me with no rifle. Just a few years before this the wife and I had shot five bears in one afternoc so you can see why it was quite disappointment not having a gun this time. Well, that made thr bears that got away!

When the deer and elk seas opened later I had both licences, went out one day into the meadc west of my resort to try and g a deer. I was hidden in the gra calling a deer out of the willows the edge of the meadow, when sor instinct told me to look back of r and I turned around to see one the largest bull moose I had ev seen walking right towards me. Th moose had a spread of horns that man could reach from point to poi and he looked as if he weighed ton. I really think this was t largest moose in the north countr and two other men who had se it said the same thing about it. was at a loss as to what to do I had no legal right to shoot th moose, having shot a moose earli in the season. I decided the only thi I could do was to try and fright it and if it charged me to shoot in self-defence.

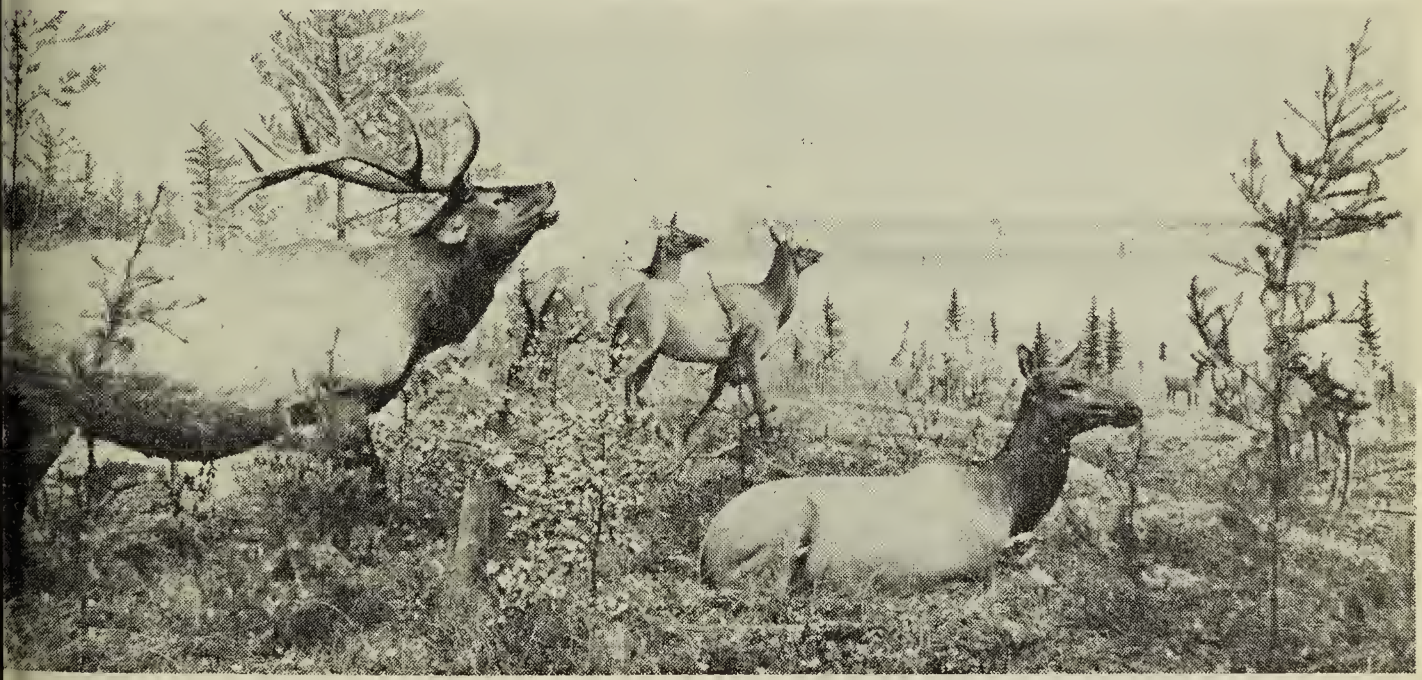
The public road was only abo 100 yards away and just at that tin a small red truck stopped and th door opened slowly and out poked rifle barrel. The hunters in the tru were going to shoot from the truc which is strictly against the law. took me only a second to decide wh to do then. I jumped out of th grass and the moose, which was on about twenty yards away by the took fright and disappeared into th willows in a couple of jumps. Th men in the truck saw me jump o of the grass and did not shoot. walked over to them and told the that they were liable on two charg —one for having a loaded gun in truck, and the other for shootin from a road within thirty yards a summer resort. They said the had not shot, but their gun w loaded and they would have take the chance if I had not shown when I did. **Some sportsmen,** tho guys!

A couple of days later I droppe a deer and while dressing it o another deer walked up with twenty yards of me and watche me dress it out! Of course, I cou not shoot it as I only had the or deer licence. Then the next wee while I was on stand near a game reserve I had two deer walk within three feet of me and one of them I could have poked in the ribs with the gun barrel. And I had a cow moose walk to within twenty yards of me, look me over and then walk away into the bush! It is a caution how close animals will come to you if you stand very still near a tree or bush and remain absolutely motionless while they are in sight.

The list and greatest disappointment occurred while I was trying to get my elk. A hunter came into the district in a large truck with a pony in the back and a toboggan to which he intended to hitch the pony. He put a red blanket on the pony and also a set of bells, and he and his pard drove all through the timber for miles in that district riding the toboggan looking for elk. He would follow a bunch of elk tracks and chase the elk right out of the district, doing this day after day till the end of the season. The only thing he saw was a lot of elk tracks, and the elk sure made a lot of them for him! He never got within miles of the elk with that silly outfit he had; all he did was spoil the hunting for about a dozen other hunters. You can see the reason why this was one season I myself did not get my elk.

EDITOR'S NOTE: In response to frequent appeals in the past for contributions from hunters and members of the province's fish and game leagues, we have this delightful account of Mr. Morgan's hunting experiences. We feel that the hunter who takes a legitimate harvest of game within the legal limits of an intelligently planned game management programme plays an important role in the utilization of our natural resources.

New Elk Display at Museum



Sask. Govt. Photo

The above photograph shows the recently completed elk display at the Saskatchewan Museum of Natural History. The elk display was officially opened by Fred Bard, Director of the Museum, at an interesting ceremony held January 20 in conjunction with the regular monthly meeting of the Regina Natural History Society.

The habitat displays in the new museum have been planned to represent the variety of environments and wildlife characteristic of the province of Saskatchewan, Mr. Bard said in opening the new display. The display of North American elk or wapiti in a natural setting—along the north bank of the Saskatchewan River east of the Fort à la Corne Provincial Forest—completes the series of 24 habitat groups.

The elk display shows a bull elk and his harem. The season is mid-September and the elk is at his prime; his antlers are fully grown and his bugling challenge rings across the river. A commanding ridge, such as the one seen here, serves as an excellent vantage point from which the bull can challenge all comers. Before the season is over a single bull may collect as many as 40 cows in his harem.

A colour film on North American elk (made in Wyoming) shown at the opening ceremony followed the elk through the seasons. The calves are born in May or June and remain with the cows throughout the summer. By October they are weaned and able to forage for themselves, though they may remain with the cows for another six months. Young bull elk develop antlers the first year, and these are shed each spring.

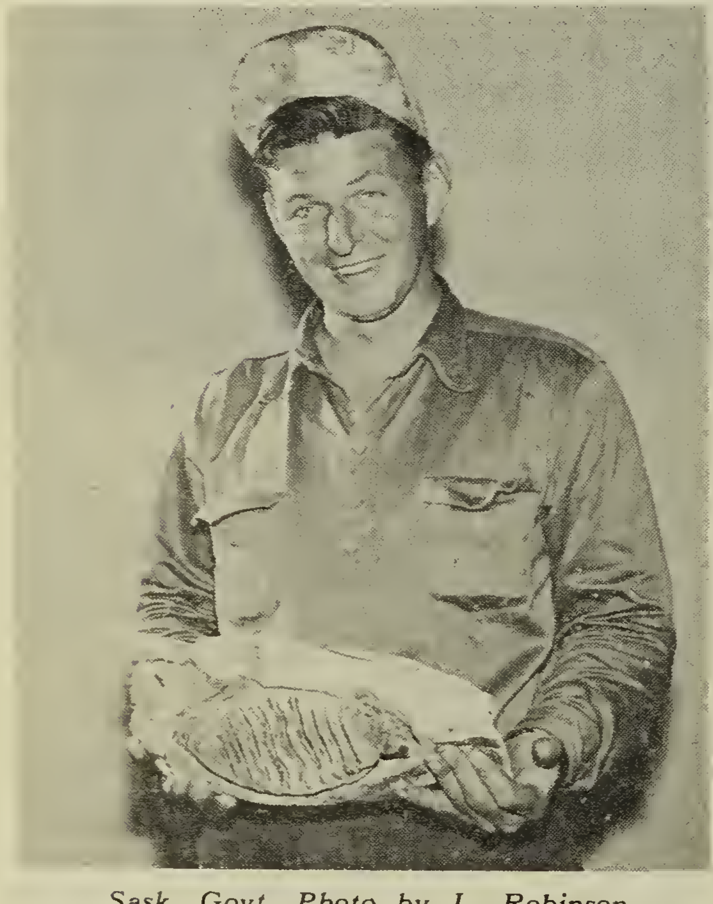
The name "elk" was given this animal by early settlers who thought it similar to European elk. The Shawnee Indians called the elk "wapiti" and this name is still preferred by many naturalists. The North American elk belongs to the same genus as the European red deer, and its true place in the animal kingdom is indicated by its scientific name *Cervus canadensis*.

Elk may be found in several areas of Saskatchewan — along the North Saskatchewan River in the locality depicted in the museum display, at Greenwater Lake, Moose Mountai Cypress Hills, Meadow Lake, an Prince Albert National Park. I numbers are not great, but it ha been saved from becoming extin through game management programmes in Saskatchewan and othe provinces.

The bull elk in the museum display was taken at English Creek i late November a few years ago by party consisting of C. McLean, I Bunting and F. Bard. Mr. Bard recalls that in —26° weather a sno drift remained in the room of th shack in which they were campin for the four days of their stay ther The elk was shot on the bank of th creek, and had to be "packed out" c the men's backs to the camp site. Th cow elk was collected in October c 1956 by a party consisting of F. Lah man, B. McCorquodale, A Swansto and W. Niessen.

Many tasks are involved in th preparation of a habitat group, fro the time the specimens are collect until the glass front is put in plac The preparation of a habitat group a good example, said Mr. Bard, teamwork among the members of th museum staff.

INFORMATION WANTED



Sask. Govt. Photo by L. Robinson

Cliff Paul holding the jaw bone and molar found in gravel pit near Pilot Butte.

The above photograph indicates t size and general appearance of mola from "Mammoths" or ice-age el phants which roamed Saskatchew throughout the major part of the la million years. These molars have laminated appearance due to the structure of alternating plates dentine and cement which tend separate upon fragmentation. Bru A. McCorquodale of the Saskatch wan Museum of Natural History undertaking a study of the distrib tion of this extinct genus. This stu will be based chiefly upon records discoveries of bones or teeth of the mammals. Any reports receiv from readers or their friends on t occurrence of mammoth teeth private collections would be great appreciated by Mr. McCorquoda

On the Fringes of Space

By **JOHN HODGES,** Regina Astronomical Society, Regina

During the past year everyone has become aware of man's efforts to explore the atmosphere. Scientists have been using three devices in their studies—balloons carrying radio transmitters have "sounded" the lower layers; rockets have gone higher and reported the conditions they encountered; satellites have been placed even higher and have reported much about the outermost fringes.

Satellites give us information about much more than the matter they must move through in their orbit. They can tell us a great deal about the earth you and I live on. The story of how man came to launch satellites to study the earth goes back to the time of Newton. In his *Principia Mathematica*, published 300 years ago, Newton outlined the theory of the movement of celestial bodies about the sun. He went so far as to illustrate how a cannon on a mountain top could be used to launch an "artificial" satellite. Just as Newton by observing the moon and planets unlocked the secret of the laws under which they move, so man today, watching an artificial moon, can have it tell him about the earth he stands on.

The moon is an earth satellite. It obeys the laws outlined by Newton. The closer a satellite is to the earth, the faster it must move to remain in a stable orbit, that is, an orbit that the satellite will remain in without hitting the object it is going around. The moon is about 240,000 miles away and goes around us in 27.3 days. The first artificial satellite's third stage rocket was at a mean distance of 315 miles from the earth, and took 96 minutes to complete a trip around us. To put a satellite into an orbit it must be put to the desired altitude and given a velocity almost exactly parallel to the earth's surface. The velocity given to it will depend on the altitude and it must be very precise. This in itself was a major feat. The launching of the satellite was also a demonstration of the accuracy of Newton's theories of three hundred years ago.

The moon moves in an ellipse and its distance from us at different positions varies as much as 30,000 miles. What about sputnik? It also moved in an ellipse. The rocket carrier came as close as 130 miles to the earth and moved as far as 500 miles away from it each trip around us. There is an important difference, however, between the moon and the satellite. The moon is far beyond our atmosphere, but not so the satellite. Although the atmosphere is very thin 130 miles above the earth, the satellite encountered enough resistance to cause it to gradually come down to the earth.

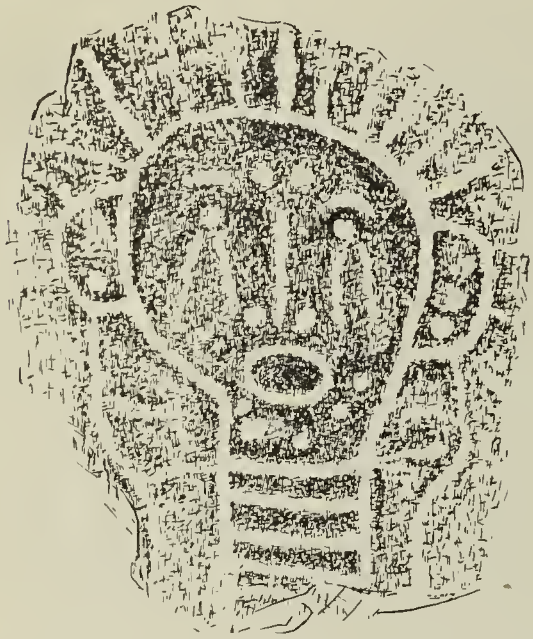
Satellites will help scientists make reliable long-range weather forecasts. With satellites eventually televising the earth from great heights, much information could be obtained about the earth's surface, and the movements of air and cloud masses. Satellites provide a means of analysing the make-up of our atmosphere at those high altitudes. Phenomena in the upper atmosphere control to some extent the weather at the surface of the earth. Satellites in their elliptical orbits can radio to earth data about the various layers of the atmosphere through which they pass.

Another important aspect of this study of atmospheric conditions is the effect certain electrical disturbances have on radio communication. When a taxi equipped with radio cannot contact its base but picks up messages from remote stations instead, the upper atmosphere is to blame. Already it is possible to advise about probable conditions for radio reception. It is known that the sun affects the upper atmosphere and the satellites will tell us how.

I believe that satellites will one day make it possible for us to reach the moon. What importance would this have for people interested in natural history? Personally, if I had the chance, the first thing I would look for on the moon would be a fossil. Imagine what a story would unfold if there were fossils to prove that life had existed on the moon prior to the time when it lost all its atmosphere.

Prehistoric Indian Petroglyph

By **Robert W. Nero**, Saskatchewan Museum of Natural History



Sketch by Joyce Dew

The accompanying sketch was prepared by Joyce Dew from paper tracings after studying a large petroglyph found on a hilltop near Weyburn, Saskatchewan, by Victor Mulhall in June of 1935. This granit boulder, weighing approximately 40 pounds and about two feet by one-and-a-half feet in size, is now on display on the museum lawn.

This petroglyph and others like i which have been found in the northern plains are believed to have bee associated with what is konwn a the Southern Death Cult, which wa a kind of religious revival in th lower Mississippi Valley and th southeastern United States about 40 years ago. The Death Cult paraphernalia at a later stage show considerable Mexican Indian influence Carved shell gorgets stone palette or plates, ceremonial batons of ston and other items related to the cul have also been found in Saskatchewan. The Death Cult is believed t have died out farther south about 30 years ago, but there are records o its persistence into the historic perio in the central plains region.

Folsom Point Found at Saskatoon

By **H. Cronk**, Saskatoon Archaeological Society

This is the point that the collector wants in his collection and the archaeologist, either amateur of professional, dreams of finding *in situ*. Why so much interest in this point? It is the find that pushed back many thousands of years the estimated date of man's coming to the continent. Before this find, 4,000 to 5,000 years was the accepted time of man's stay. It was the first type of artifact found associated with any of the long extinct Pleistocene animals. Dr. Figgins and his party were digging out the fossil remains of a species of giant bison near Folsom, New Mexico, in 1926 when he found some fragments of a man-made tool. Many experts in archaeology and anthropology refused to accept the fragments as man-made. But in 1927 when Figgins found a complete point lodged between the rib bones of a extinct bison, all digging stopped, an the doubting experts were summoned. The evidence of associatio with the bones, and the fact tha these bones lay in deposits whic geologists identified as belonging t the closing period of the Pleistocene was ample proof that man's sojour on the continent must be at leas 10,000 years.

The Folsom was vastly different i shape and method of manufactur from any point that had been previously named. (A point is not name until a number have been found i *situ* in one locality). The typical Folsom has a flute on each side runnin from the base nearly to the tip. Thi fluting is the result of a single flak being taken from the base toward th tip on each side after the point ha been otherwise fully shaped. Some those found at the Lindenmeier sit were only fluted on one side or n fluted at all. These may have been unfinished points. The majority wer also ground or smoothed on the edge between the base and the widest pa of the point.

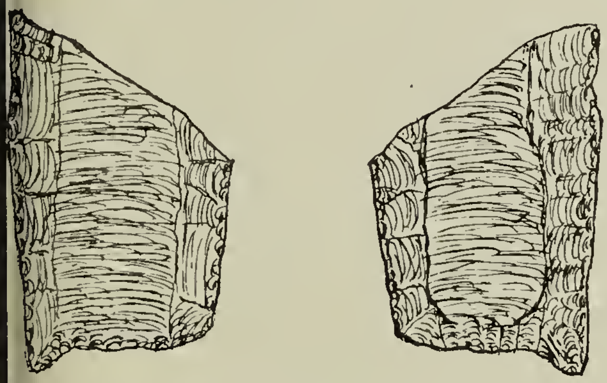
Peculiar fluted points were found ith other types in 1924 by Kenneth Casey) Jones of Mortlach on the rface of sand blows. They were so ifferent that Mr. Jones prized them eatly. At that time, the Folsom oint was archaeologically unknown d therefore was not described in y literature. If Kenneth Jones had und these points *in situ* as did Dr. iggins, Mortlach would probably ave been the name—not Folsom.

The Saskatoon point in the accom-anying picture agrees nicely with e average classic Folsom from the Lendenmeier site. It was found accidentally in the summer of 1957 by a member of the Saskatoon Archaeological Society, but was not reported until the December meeting of the Society as the importance of the find was not realized. No associated material was noticed in the trench at at the time of the find. It was found about 12 inches below the present surface and some of the soil above appeared to have been disturbed previously. The Society will make an investigation of the site as soon as weather permits.

Folsom Fragment Found Near Woodrow

By **A. J. Hudson,** Mortlach

In the summer of 1957 I was so rtunate as to find a fluted flake ear the junction of Wood River and into Creek. If you examine the lustrations of this Folsom point you ill notice a difference in the fluting n the two sides. The flake of the l side has been taken off from the se. In the process of making the int, the body is flaked on both des leaving a high central ridge and flat end at the base for a striking atform. I should guess that the ece must then be wedged in a block wood to get the proper resistances. mething in the form of a chisel ust have been used and a hard blow uck because of the need for curacy to get the first flake off. t with the flake on the reverse side difficulty arises. Unless the maker careful he is liable to break the int when striking off the second g flake. In the present case, A2, striking platform has been made rward from the base and then the ke struck off. Finally a few thin-g flakes have been taken out from base to bring the main flake scar sh with the base.

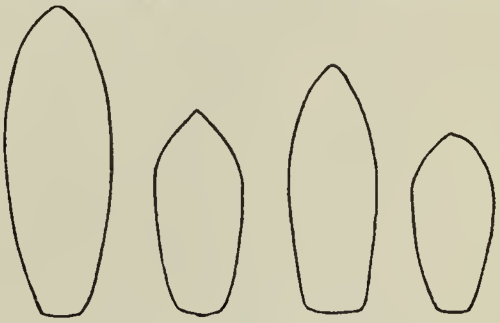


lsom fragment, chalcedony heavily patinated. Natural size.

In the case of the two Folsom points owned by Mr. Conrad Dahl of Roseray, Saskatchewan, the problem has been met in a different way. One flake was taken out completely on one side, but on the other side the flakes have been taken out piecemeal, i.e., a number of long, narrow flakes —safety first, so to speak. I examined Conrad Dahl's two Folsoms carefully one day and we decided that there was a strong possibility that the points were shaped after the fluting was done.. If the top end was left unfinished till the fluting was done, there would be less danger of shattering.

With the discovery of these Folsom points we're right on the trail of early man.

INFORMATION WANTED



Information concerning the distribution of lanceolate projectile points in Saskatchewan and adjacent regions would be appreciated. The sketched outlines are of lanceolate points from the Parkhill site, south of Moose Jaw, believed to be 7,000 to 8,000 years old. The largest point is just under three inches in length

Robert W. Nero,
Saskatchewan Museum of
Natural History.

LETTERS

PARSNIPS IN COLD STORAGE

Joyce Dew's notes on the badger's cold storage plant (Blue Jay, XV: 4: 177) reminds me of an experience I once had with our garden parsnips. We went to the garden for a first feed of these vegetables and found only tops. The edible sections had all been carried away by some underground raider. Not to be outdone I took the trouble to try and follow some of the holes They all led uphill to a central burrow. Some 20 feet from the garden my parsnips were nicely stored. I was able to recover enough for several meals. The raiders? We called them moles but I believe they were really pocket gophers.— Elwin Baines, Tisdale, Sask.

EATING HABITS OF FROGS

Reading the article in the December issue of the Blue Jay (XV: 4: 178-180) about snakes eating minnows brought back memories other days. I remember especia observing the eating habits of fro which we kids found most interesti and entertaining Near the hou there had been an outdoor roothou The roof had been of poles which time had rotted off on one side a fallen in. On the other side t poles still rested on the edge of t pit, making a shaded opening b neath it. While playing around t old pit, we would often pause a look down into the shadows at t numerous frogs that made th home there. I don't recall w actually tossed the first smaller fr into the pit. but this was done, a I still recall our amazement at t way those big fellows pounced up the hapless victim which one of th swallowed whole. I fear that duri that summer many frogs went i the "Lions' Den" while an interes audience watched the procedure ur the hind legs of the victim had co pletely disappeared.—Watson Cro ley, Grandview, Manitoba.

The Blue Jay Bookshelf

An Evaluation of the Distribution Records for Saskatchewan Birds in Revised Edition of the A.O.U. Check-list

by Stuart Houston, Yorkton.

CHECK LIST OF NORTH AMERICAN BIRDS. *Prepared by a committee of the American Ornithologists' Union.* Fifth Edition. Baltimore: The Lord Baltimore Press, 1957. $8.00.

The long-awaited fifth edition of the American Ornithologists' Union *Check-List of North American Birds* appeared late in 1957, some 26 years after the previous edition of 1931. Apart from the index, it contains 655 pages, and lists a total of 1686 species and subspecies (compared to 1420 in 1931). It is strictly a reference book, and contains nothing about descriptions or habits of birds. Its purpose is to give the latest scientific classification and nomenclature. It also gives the detailed distribution of each species.

The chief change in this edition is that subspecies are no longer given a vernacular name, but only a Latin one. This has necessitated m changes in species names. Th there is no longer a Richardso Owl—for it was only a subspeci We are now to call it the Boreal O The Eastern Towhee and the Spot Towhee are now combined in c species, called the Rufous-sic Towhee. And so it goes.

A list of the changes in names species occurring in Saskatchew will be given at the end of t article. The next edition of Pet son and other bird books will course use these new names, meanwhile it might be wise to ma these changes in your present Pet son. These are the names that sho be used in future in the *Blue Jay.*

The description of the range each species represents a great d of work on the part of the compile with one man working part-time his project from 1948 until 1957. Saskatchewan is specifically menioned in the distribution accounts of ome 238 species, for example: 'Ring-necked Duck. Breeds from . . Alberta, Saskatchewan, Manioba . . ." In others a Saskatchewan ange is only inferred, for example: Green-winged Teal. Breeds from orth-central Alaska, northern Mackenzie, northern Manitoba . . ." On bout 340 occasions, specific localities n Saskatchewan are mentioned, for xample:

"Broad-winged Hawk. Breeds from . . central Saskatchewan (Hudson Bay Junction) . . ."

It was interesting to tabulate these ocalities to see which occurred most ften, as some indication of the chief ources of material used. Emma Lake s mentioned 22 times (Mowat's obervations); Athabaska Lake 18 chiefly the unpublished observations f the 1920 expedition led by Francis Harper); Eastend, 17 (chiefly Potter); Churchill River and its akes, 17 (Buchanan); Flotten Lake, 6 (Godfrey); Cypress Hills and Cypress Lake, 14 (Godfrey); Nipawin, 14 (Street); Cumberland House, 2 (9 of these by Richardson, though ncluding the Western Wood Pewee, ow known to be an error; and 4 pecies, one duplicating Richardson's, rom the 1890 observations of Mrs. King, quoted by Macfarlane); Indian Head is mentioned 12 times (Lang, nd some Spreadborough); Yorkton, 2 (Houston); Carlton, 11 (9 of Richardson); Prince Albert, 9 mostly Coubeaux); Big River, 8 Mitchell); Quill Lake, 7 (chiefly erry); Davidson, 7 (Todd); and elican Narrows, 7 (McKay quoted y Macfarlane).

These sources were not used conistently. For example, by far the est Saskatchewan list of breeding ecords is that of Street (1942) which sted 115 species proved to be breedng, with 9 further additions in 1946. he following are examples of pecies which would have had their ange extended had these Nipawin ecords been used by the A.O.U.: oshawk, Northern three-toed Woodecker, Gray Jay (listed by A.O.U. nly as breeding south to northern ask!), House Wren, Catbird, Swainon's Thrush, Veery, Mountain Blueird, Solitary Vireo, Philadelphia ireo, Warbling Vireo, and Orangerowned Warbler.

By noting the localities listed, and checking virtually all past publications dealing with Sakatchewan birds it was possible to locate the sources for most of the localities listed. Chandler S. Robbins has kindly supplied data for a few of the more unexpected records from the files of the U.S. Fish and Wildlife Service.

Five species are listed that were not on the Field-checking List of Saskatchewan Birds (Bard and Houston), Feb., 1954. These are as follows:

Black-necked Stilt. One nesting record from Fort Qu'Appelle, Sask., June 13, 1894. Eggs in Victoria Memorial Museum, Ottawa. This was quoted in Bent's *Life Histories*, but must now be considered an error, since it was not mentioned by Macoun or Taverner, who were familiar with Victoria Museum records.

Little Gull. One was collected by Franklin's first expedition, but neither Sabine (in the appendix to the report of that expedition) or Richardson (in *Fauna Boreali Americana*) mentions the locality. It is true that in the introductory table to the latter work, Richardson lists it as "Rare spring and autumn visitor (on the Saskatchewan)." Its inclusion by Richardson may have been due to supposition only and does not prove the specimen was collected in Saskatchewan.

Parula Warbler. The A.O.U. *Check-list* says "Casual to southern Sask. (Sovereign). Chandler S. Robbins has kindly located the following two records from the files of the U.S. Fish & Wildlife Service: "One seen at Bonniebrae," McLean, Sask., on May 10.1935. Rare." "One seen at Sovereign, June 5, 1930, by Beryl M. Dickson." Thus these are the first sight records for Saskatchewan, though it is still Callin's 1956 record, confirmed by Lahrman's photo, that places this species on the fully accepted list.

Pine Warbler. Reported in A.O.U. *Check-list* as "Casual in southern Sask. (Wingard, Indian Head). Reported as common at Wingard, Sask., by J. Alden Loring, July 13-31, 1895. (I have not yet ascertained whether he collected any specimens. C. S. H.) Three were seen on May 21, 1929, at Indian Head by Geo. H. Lang; the species was seen again by Lang the following day. Lang stated they were "moderately common. Does not breed."

Golden-crowned Sparrow. "Accidental in Sask. (Indian Head)." Robbins (letter of Jan. 16, 1958) informs me that Smith, in the *Handbook of the Rocky Mts. Park Museum,* 1914, page 71, mentions a specimen from Indian Head.

Unfortunately, there are many inaccuracies in the A.O.U. accounts of Saskatchewan ranges. The blame for this must rest largely on us in Saskatchewan, since we have not yet produced a critical, up-to-date work on the birds of the province. Also, not enough good local lists have been printed. Some of the inaccuracies in the description of Saskatchewan ranges could have been avoided if someone from Saskatchewan had been asked to check the manuscript before publication, but this was not done.

Because the A.O.U. *Check-list* will be the standard authority for many years to come, it is important to place on record some of its more serious errors in the hope of avoiding to some extent their perpetuation in the future.

For purposes of the A.O.U. list, Saskatchewan is apparently divided into three divisions: northern, central and southern. The dividing line should thus be 52° 40′ (about ten miles south of each of North Battleford, Melfort and Hudson Bay Junction); and 56° 20′ (Methye Lake, and south end of Reindeer Lake). These divisions are used in a rather inconsistent manner in the A.O.U. *Check-List.* Let me cite one particularly bad example. For Swainson's Thrush, subspecies *swainsoni*: "Breeds from northern Saskatchewan. (Churchill River, Flotten Lake and Cypress Hills) . . . to southern Saskatchewan (Ile a la Crosse, Prince Albert, Last Mountain Lake). Of the three "northern" localities, two are central and the third very much southern; of the three "southern" localities, two are again central and only one southern. Similar examples could be cited for a number of species. To make matters worse, often the localities mentioned are poorly representative of the species' range.

One of the most striking errors is the ascribing of records to the wrong province—five species listed from "Saskatchewan, Cochrane River" were in fact collected north of
Brochet well within the province
Manitoba. (Buchanan did not ascer
the Cochrane far enough to get bac
into Saskatchewan). The Bohemia
Waxwing nesting record for Theita
Lake appears to involve a simil
error. One suspects, too, that t
Western Meadowlark record fro
"Manitoba Lake" belongs to Man
toba, not Saskatchewan. The Whoo
ing Crane nesting record for "Man
toba, Moose Mountain" was for a ne
found by Macoun at the edge
Moose Mountain, Saskatchewa
Similarly, the Sandhill Crane reco
for "Manitoba, Crescent Lake" refe
to a specimen and eggs collected
Baines at Crescent Lake, south
Yorkton, Saskatchewan.

Some localities would be difficu
or impossible to locate on any ordi
ary map: Devil's Lake is not the di
continued post office west of Burg
in the A.O.U. *Check-List* it is t
local name for a small body of wat
six miles west of Amazon; this nan
is not used on any map, not even
a three-mile-per-inch topographic
survey map. Rocky Creek probab
refers to Rock Creek near Easter
The following three spellings will
absent from most modern map
Johnson Lake (for Blackbill
Cuckoo), Lake Johnston (for Tow
send's Solitaire), and Lake Johnsto
(for Dickcissel). The correct name
the original name of Old Wives Lak
Confusing spellings are Kutanaj
(for Kutawagan), Gowenlock (f
Govenlock), and Carleton (for Ca
ton).

Localities used in compiling su
species are not confined to specime
as they should be. Sight records
subspecies are often used witho
pointing out to the reader that su
subspecies may be very difficult
identify by sight. Again, sight recor
are not distinguished from specim
records. The A.O.U. list mentions
though fully acceptable the followi
species which are included in t
Saskatchewan list as hypothetical, b
ing based on sight records only: Le
Bittern, Swallow-tailed Kite, Pin
Jay, Parula Warbler (still regard
as hypothetical at that time), a
Scarlet Tanager.

An equally serious error is the f
that breeding ranges from Sask
chewan are sometimes given
rather flimsy evidence, or suppo
tion, without actual nests or u
fledged birds having been found,

even from a record for some other time of year! For example, the Solitary Vireo is said to breed at Davidson, whereas Todd's specimen was collected there on August 30—hardly in the breeding season! The Swamp Sparrow is said to breed at Cabri Lake—but the specimen was collected September 10, 1920. The Bay-breasted Warbler is "recorded in summer—from Valeport," but this specimen was taken May 24, 1913, at the height of spring warbler migration. One would be interested to have confirmation of the breeding evidence for a number of other species, including the Slate-colored Junco and White-throated Sparrow said to breed at McLean. Then there are some deficiencies; for example, the breeding range of Cooper's Hawk does not include Saskatchewan, whereas we now have a number of nesting records (from Yorkton, Nipawin, and Boggy Creek, near Lumsden).

But more than a study of available publications is necessary to bring our knowledge of Saskatchewan bird distributions to an adequate level. We must pause to look at the magnitude of the task that confronts us all. The northern third of the province has been almost totally neglected; the only good work done there (by Harper at Lake Athabaska) has never been published. We have a handful of Buchanan's records from Reindeer Lake, but even some of these may refer to the Manitoba portion of the lake. We should like to see expeditions from our provincial Museum go out to this neglected area—Reindeer Lake, Wollaston Lake, Cree Lake, Careen Lake, and Black Lake. Our Society should speed their programme of publishing local lists—for the Qu'Appelle Valley, Regina, Mortlach, Tullis, Saskatoon, Carlton and Cumberland—and a bibliography of Saskatchewan ornithology. Harper's Athabaska list should be published, even at this late date. With this material on hand, it would be possible for the Museum to review critically all published material, together with their own records and specimens, and publish a new *Birds of Saskatchewan*. Meanwhile, it should be recognized that the A.O.U. *Check-List* contains too many inaccuracies to be considered either useful or reliable in regard to the distribution of Saskatchewan birds.

OLD NAME	NEW NAME
Pacific Loon becomes	Arctic Loon
Holboell's Grebe	Red-necked Grebe
American Egret	Common Egret
Baldpate	American Widgeon
Shoveller	Shoveler
American Golden-eye	Common Golden-eye
American Merganser	Common Merganser
American Rough-legged Hawk	Rough-legged Hawk
Ferruginous Rough-leg	Ferruginous Hawk
Prairie Chicken	Greater Prairie Chicken
Hungarian Partridge	Gray Partridge
Sora Rail	Sora
Killdeer Plover	Killdeer
Golden Plover	American Golden Plover
Wilson's Snipe	Common Snipe
Hudsonian Curlew	Whimbrel
Red-backed Sandpiper	Dunlin
Dowitcher-2 species	Short-billed Dowitcher Long-billed Dowitcher
Short-billed Gull	Mew Gull
Horned Owl	Great Horned Owl
Richardson's Owl	Boreal Owl
Nighthawk	Common Nighthawk
Arctic Three-toed Woodpecker	Black-backed Three-toed Woodpecker
American Three-toed Woodpecker	Northern Three-toed Woodpecker
Arkansas Kingbird	Western Kingbird
Crested Flycatcher	Great Crested Flycatcher
Alder Flycatcher	Traill's Flycatcher
Wright's Flycatcher	Dusky Flycatcher
Canada Jay	Gray Jay
American Magpie	Black-billed Magpie
Raven	Common Raven
Crow	Common Crow
Hudsonian Chickadee	Boreal Chickadee
Olive-backed Thrush	Swainson's Thrush
Wilson's Thrush	Veery
American Pipit	Water Pipit
European Starling	Starling
Blue-headed Vireo	Solitary Vireo
Water Thrush	Northern Waterthrush
Redstart	American Redstart
English Sparrow	House Sparrow
Bronzed Grackle	Common Grackle
Cowbird	Brown-headed Cowbird
Rosy-Finch	Gray-crowned Rosy Finch
Spotted Towhee	Rufous-sided Towhee
Nelson's Sparrow	Sharp-tailed Sparrow
Pink-sided Junco now part of	Oregon Junco

ARCTIC BIRDS OF CANADA. By *L. L. Snuder*. University of Toronto Press, 1957. $4.75.

This book fills a long felt need, for, with the exception of Bailey's *Birds of Arctic Alaska* (1948), information on arctic birds has appeared only from time to time in the National Museum bulletins and in journals such as the *Canadian Field Naturalist* and the *Arctic*. Everyone who has watched these birds in migration or seen them as winter visitors will welcome this record of their summer and winter ranges and their breeding grounds. Since the region covered by the book is limited to that area north of the tree-line it includes only a narrow strip of our northern coastline and the great Canadian archipelago. Birds, however, do not observe such boundaries and the great isotherm-like lines marking the ranges of the redpolls and sparrows swing as far south as Great Slave Lake and west to the Hudson Bay.

Since the purpose of the book is to help those living in the arctic to identify the birds around them and particularly those "birds in the hand" brought in by traders and Eskimos, long descriptions of plumage and the exact measurements are given with only brief statements of the songs, nests and young Remembering the usefulness of the Roberts' key (*Birds of Minn.*) to us in the north-west, one can see the value of giving these lengthy descriptions but still regret that the newer material is treated so briefly. On the map which accompanies the description of each of the seventy-two birds, the winter and summer ranges, and the breeding grounds are marked so sharply that I looked in vain for a description of this in the text. However, I did find the appendix on the stray birds in the arctic. As all bird watchers know the appearance of these strays in a region is exciting and for this reason the list of the wanderings of robins, slate-coloured juncos, a lapwing, etc. into the arctic makes good reading. The author comments on the maps illustrating the ranges of the western and eastern races of redpolls, sparrows, etc , by pointing out the great migration routes from Asia and Europe to the arctic and thus reminding us how close those countries are to the Canadian arctic. The illustrations by Mr. Shortt are a delight both in their number and in their beauty for he has given not only the details and the characteristic pose of each bird but also the sweep of wing and the lovely glimpses of arctic landscape. The only regret is that not one of these sketches is in colour. Here then is a book which turns our attention to the north and makes us realize that much that is news, ornithologically speaking, is yet to come from there. As Mr. Snyder predicts, much important information may be discovered about arctic birds when we have trained observers living all the year round in the arctic.

Lucy H. Murray,
Regina.

ANNOTATED CATALOGUE OF THE VASCULAR FLORA OF SASKATCHEWAN. B *August J. Breitung*. Reprinted fro *The American Midland Naturalis* Vol. 58, No. 1, pp. 1-72. July, 195 University of Notre Dame Pres Notre Dame, Indiana.

This paper represents one of th fruits of the almost twenty years study devoted by Mr. Breitung to ou flora. Its objective is summarized b the author in his first paragraph. Extensive nomenclatural changes hav taken place in the last 15-20 year several species not previously know from the province have now bee added to our flora and addition localities have been included in th distribution records of less commo species; and the region for which th term Saskatchewan was used has no been limited to the province of Saskatchewan. Because of these change Breitung offers a modern treatmen of our flora. In this object Mr. Bre tung has thoroughly succeeded, least in this reviewer's opinion. H treatment gives us a plant nomenclature from which the misleading influences of Rydberg have been elim nated. This paper, then, supersede the various editions of *A Revise Annotated List of the Plants of Saskatchewan* by the late W. P. Fras and R. C. Russell (1937, 1944, 1954 In the latter work, in cases where scientific name has been altered, o is liable to find both the new nan and the old Rydberg name as sepa ate entries. This may cause confusio

The paper being reviewed ope with a history of botanical explor tion in Saskatchewan. Then follo the main part of the work: a list Saskatchewan plants, with scienti and English names, places of colle tion for rare plants or general habit and distribution for common on and synonymy (superseded scienti names). A total of 1380 entries, i cluding names of lower than speci status, are recognized. The pap closes with a list of excluded speci —that is, species that have been r ported growing in Saskatchewan, b that probably don't, judging by ava able evidence.

The only regret I have to express that the paper is probably going be difficult to obtain, especially a f years hence.

John Howard Hudson,
Regina

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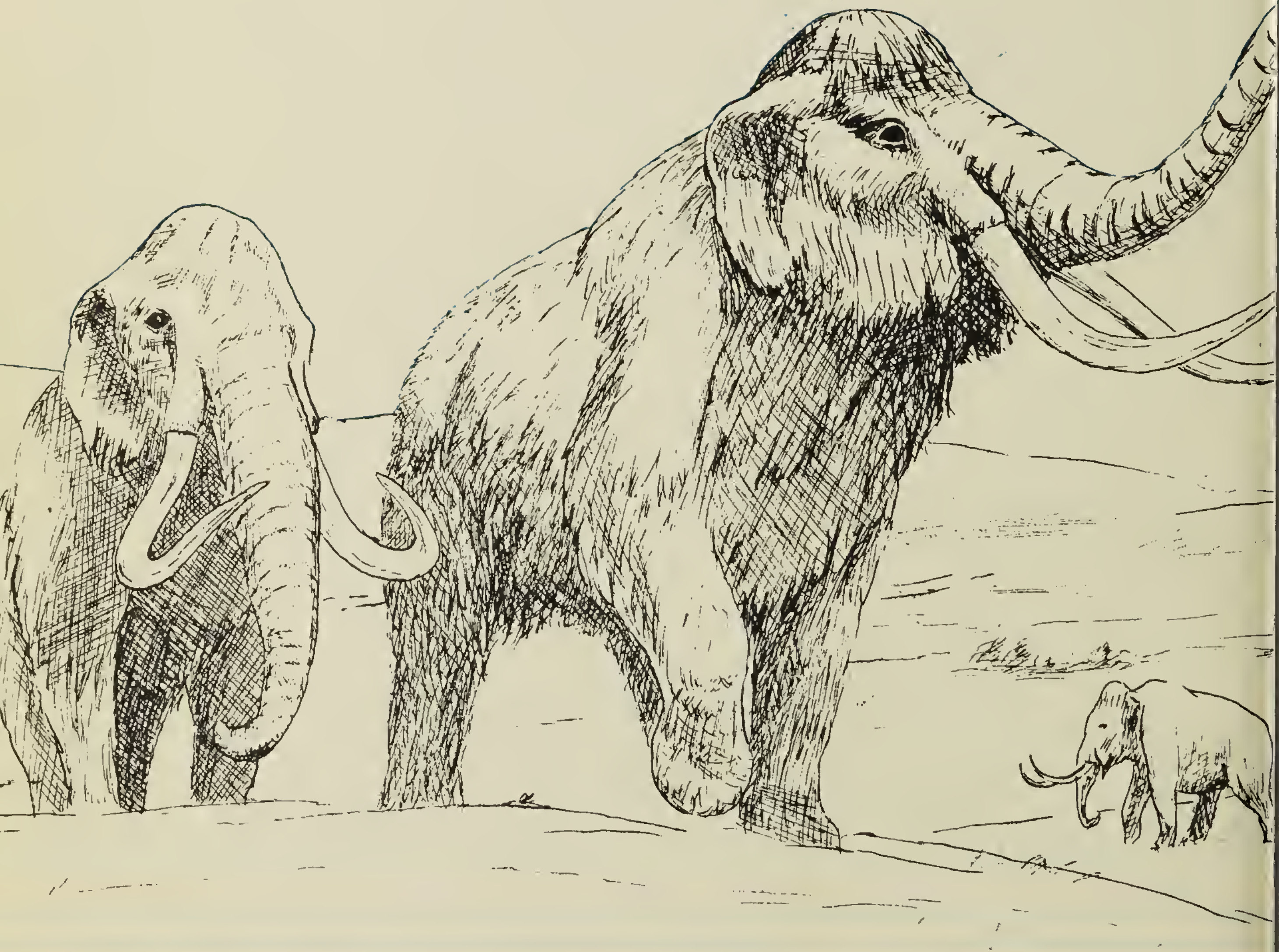

WOOLLY MAMMOTH *SKETCH BY FRED W. LAHRMAN*

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